UNIVERSITY OF KWAZULU-NATAL

THE CONCEPTUALISATION OF E-LEARNING AT THE SOUTH AFRICAN PUBLIC SECTOR

By

Ayanda Pamella Msomi

204004182

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Supervisor: Dr Elias Munapo

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DECLARATION

I the undersigned, Ayanda Pamella Msomi, declare that the work contained in this dissertation is my own work and I have not submitted it to any other academic institution for an academic qualification.

Signed..... Date..2016/02/18.....

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ABSTRACT

The South African public sector is faced with many challenges and one of the major challenges is service delivery. This could be linked to not having government officials who have the necessary skills to carry out their duties. The skills shortage could also be a result of the public service having too many people to train in a short period of time. Training face-to-face has its challenges as employees have to be away from their day-to-day duties to attend training and this not only has an impact on productivity but also maximises costs. To deal with and to minimise these challenges the South African government has chosen to introduce eLearning in the South African public sector. This is aimed at ensuring that larger numbers of government officials are trained at minimum costs and ensuring that training reaches people with different responsibilities such as top management and people with families who cannot afford to be away from home or office for training for long periods of time. This study examined the advantages and disadvantages of the introduction of eLearning in the public sector; the importance of strategic planning for eLearning; the challenges faced by the public sector when it comes to training; how other organisations internationally have conceptualised eLearning, and; what the public sector is hoping to achieve by introducing eLearning. Even though eLearning has its disadvantages it is still seen by many scholars as an ideal way to train government employees and to build capacity. The gaps in the conceptualisation of eLearning in the South African public sector were identified and possible solutions including a paradigm shift from a reductionist way of thinking to a systems thinking way of thinking and doing things was recommended.

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

LIST OF APPENDIXES

LIST OF ACRONYMS

CATWOE	Customers, Actors, Transformation, World View, Owners, Environmental constraints
CEL	Certification of eLearning
CFDQ	Conceptual Framework for Data Quality
DPSA	Department of Public Service and Administration
EDSU	eLearning Development and Support Unit
EFQUEL	European Foundation for Quality in eLearning
ELQ	eLearning Quality
GCRA	Gauteng City Region Academy
GTOC	Government Information Technology Officers Council
HRD	Human Resource Development
IDEA	Initiate, Do, Evaluate, Act
ICT	Information and Communication Technologies
IT	Information Technology
MDI	Management Development Institute
MOU	Memorandum of Understanding
NRW	Nordrhein-West-Falen
NSG	National School of Government
PPP	Private Public Partnerships
PSETA	Public Sector Education and Training Authority
QMS	Quality Management System

SA	South Africa
SITA	State Information Technology Agency
SSM	Soft Systems Methodology
US	United States
UWC	University of the Western Cape
VSM	Viable System Model

CHAPTER 1 : INTRODUCTION

1.1 Introduction

The application of electronically-based technology is advancing dramatically and will increasingly impact our lives. The public sector uses technology in order to deal with multiple challenges faced at local and international levels. These challenges include service delivery at various stages within our communities to improve the quality of life and to improve productivity through empowering employees with the required skills. Electronic learning (eLearning) is viewed as the cheapest and most effective way in which organisations in the public sector provide their employees with continuous learning opportunities to improve organisational outcomes (Langford & Seaborne, 2003:50). ELearning, because of the way it is presented, is said to provide equal opportunities as this is the biggest challenge for South Africa (Bagarukayo & Kalema, 2015:171).

The purpose of this study is to focus on the conceptualisation of eLearning in the South African public sector. This includes identifying and understanding how the concept of eLearning in the South African public sector came about and what processes were followed in conceptualising eLearning. The introductory chapter will provide the motivation, background, purpose and aim of the study as well as the research problem, objectives and research questions.

1.2 Motivation

Education is a tool that empowers people by giving them the necessary skills and means so that opportunities can be created for personal growth and growth in the economy (Omer, Klomsri, Tedre, Popova, Klingberg-Allvin & Osman, 2015:268). Many public sectors around the world and some in South Africa have introduced eLearning within their organisations. According to Hur and Im (2013:192), the Korea Central Officials Training Institute (COTI) introduced eLearning for Korean government employees in 2009. Langford and Seaborne (2003:59), describe how eLearning became significant in the Canadian public sector. Tamasane, Patel and Mamogale,

(2004:3) state that the department of health in Free State province (South Africa) conducted research on how they could increase the number of trained employees while reducing the costs of the face-to-face method. They implemented eLearning and were successful in increasing the number of trained employees at less cost. The National Treasury developed an eLearning program which provides risk management support to public entities. This tool is used by the National Treasury to test users within the public institutions in order to understand their level of knowledge, skills and/or awareness regarding the public sector risk management framework.

According to Wan, Compeau and Haggerty (2012:308), training of employees is one of the ways to improve an organisation's productivity. Training is important in order to keep abreast of the fast changing work place. The National School of Governance (NGS) strongly supports the statement that training of employees through eLearning is a way in which capacity can be built at lower costs. The Department of Public Service and Administration (DPSA) recognises that there should be numerous options to build capacity in order for government departments to meet the requirements, empower and build capacity of their employees (Department of Public Service and Administration [DPSA], 2015).

1.3 Background to the public sector involvement in eLearning

The DPSA is responsible for overseeing all the government's administration. Their mission is to make sure that all standards and norms are followed and to intervene when it comes to maintaining an obedient public service that is functioning. Their role is also to ensure that the public service is ethical using programs and systems that fight against and prevent corruption and to ensure that there is a better quality of public administration in Africa and worldwide where there is sharing of best practices.

The Minister of the Public Service and Administration has the responsibility of developing norms and standards which relate to the functioning of the public service in relation to organisational structures, creation of departments, labour relations, employee wellness, electronic government, transformation, reform and innovation and integrity, ethics and anti-corruption. DPSA has a responsibility to ensure that there are good career development practices in place so that the human potential of their

employees can be examined and nurtured. This is one of the reasons why DPSA has looked into introducing eLearning in the public sector.

The National School of Government (NSG) is a national department which is a training institution for the public servants of South Africa. The main aim of the NSG is to ensure that the public sector is in a position and is capable of delivering services to the public and to address the challenges of poverty and inequality. The NSG plans to do this by designing learning and development programs which will produce a professional, capable and responsive sector. The South African government has identified how critical learning is a necessity for future development. The NSG is therefore responsible for ensuring learning and development programs that will improve the performance of the public sector. One of the ways for NSG to improve performance through learning is by introducing eLearning.

The main aim of the Gauteng City Region Academy (GCRA) is the promotion of quality education through training and skills development in the Gauteng province. It tries to build the relevant skills in the ever growing Gauteng economy. It is also responsible for offering management and leadership the necessary skills in order to improve public sector employees so that the socio economic imperatives of Gauteng can be improved.

The Provincial Government of the Western Cape is responsible for ensuring that sustainable economic and employment growth conditions are created and that they deliver clean, efficient, cost effective, transparent and responsive public administration and public services in the Western Cape Province.

1.4 Focus of the study

This study was focused on the public services that have conceptualised eLearning in South Africa and those who have already started implementing eLearning. These public services include DPSA, NSG, GCRA and the Provincial Government of the Western Cape. The main focus was to gain an understanding of the conceptualisation of the eLearning process and how decisions were made during the conceptualisation phase.

1.5 Problem statement

The public sector in South Africa is faced with many challenges within the service delivery domain, as evidenced by the numerous protests and strikes in various provinces due to the public being unhappy with service delivery. This lack of delivery is mainly because of the lack of skills in the public sector. According to Bagarukayo and Kalema (2015:168) generally South African learners face a number of challenges which are due to, but not limited to, different backgrounds, languages and race; unequal distribution of wealth; inadequate infrastructure; limited access to a limited number of skilled instructors. As a result, the public sector needs to engage with training institutions and come up with ways to equip their employees with the necessary skills in their respective working environments. This will improve productivity in the most efficient and effective way. Skills development is one of the major challenges in South Africa especially in the public sector as there are over 100 government departments with many employees that need to be trained. Employees are working and do not have time to be away from the office to engage in training opportunities that would affect their productivity. For this reason the South African public sector has come up with the concept of eLearning for public servants. It is therefore important to understand the South African public sector views on the conceptualisation of eLearning. It is also essential to establish whether there was some form of study or research about eLearning in the public sector which was undertaken during or before the conceptualisation phase in order to ensure the success of the eLearning process.

1.6 Research questions

This study aimed to answer the following research questions:

- Why did the South African public sector introduce the concept of eLearning as opposed to orthodox learning and were eLearning quality standards for consumer protection conducted?
- What is the South African public sector eLearning strategic plan, who was involved in the conceptualisation of eLearning process and what approach was used?

- What were the challenges facing the South African public sector prior to the eLearning concept and was there any coordination with the private sector?
- What is the South African government hoping to achieve by introducing eLearning for the public sector and what are the key indicators for measuring the success of this introduction?

1.7 Research objectives

The main objective of the study is to understand the conceptualisation of eLearning in the South African public sector:

- To investigate why the South African public sector introduced the concept of eLearning as opposed to orthodox learning and whether eLearning quality standards for consumer protection were conducted?
- To identify key features of the South African public sector eLearning strategic plan, who was involved in the conceptualisation of eLearning process and what approach was used?
- To investigate the challenges facing the South African public sector prior to introduction of the eLearning concept and whether there was any coordination with the private sector?
- To investigate what the South African government is hoping to achieve by introducing eLearning for the public sector and what are the key indicators for measuring the success of this introduction.

1.8 Purpose of study

This study is important because it will add value to the South African public sector when it comes to the conceptualisation of eLearning in their organisations and in understanding the gaps in the conceptualisation of eLearning. Some South African public sectors have implemented eLearning programs in their organisations. In order to assess the findings and the outcomes an investigation of understanding the conceptualisation of eLearning is necessary as the reasons for progress or failure of the implementation of eLearning in the public sector could be linked or traced back to the conceptualisation phase.

When assessing progress it is always necessary to go back to when the idea started in order to understand whether what was meant to be achieved by the concept was indeed achieved and to assess what could have been done better. To determine what did not work and what did work in organisations is a continuous learning process and there is always room for improvement. This study will also assess how other countries or organisations have engaged in the eLearning conceptualisation processes in their public sectors and learning institutions.

This study will recommend ideas and identify gaps for future research. The investigation will help the South African public sector to: a) have a deeper understanding of eLearning, b) identify the gaps in the conceptualisation of the eLearning process, c) assist decision makers as they draw up policies for implementation.

1.9 Research Methodology

The research methodology that was used is qualitative techniques to collect primary data as the study required an in-depth understanding of the conceptualisation of e-Learning. According to Du Plooy-Cilliers, Davis and Bezuidenhout (2014:14) qualitative research is about getting a world view where one gets an in-depth understanding of a certain subject from people experience and these can be subjective as well.

The study made use of non-probability sampling where purposive sampling was used. Du Plooy-Cilliers et al (2014:142) states that purposive sampling is when the researcher chooses who to interview (who to include in the sample) based on a set of characteristics. Snowball sampling was used where the researcher was open to referrals of the people who were involved in the conceptualisation of the eLearning in the South African public sector.

Data was collected from several sources identified by the researcher in order to get a broader understanding on the topic. The researcher interviewed selected experts from the NSG, DPSA, GCRA and the Provincial Government of Western Cape who were involved in the conceptualisation of e-Learning in the South African public sector. The participants were asked a number of open ended questions. The interviews were done

on a one-on-one face to face basis with 3 participants and there was one focus group from the NSG which included three participants. The reason was to get different perspectives on the objectives of the study which led to more accurate results.

Data collected from the participants was coded taking into account all the relevant data needed to answer the research questions. The researcher also made use of other data collection methods such as reviewing of documents. These documents were very important as they assisted in strengthening the information gathered through interviews.

1.10 Ethics, validity and reliability

Pre-agreements were made with the departments involved in the form of signed gatekeeper's letters. The researcher submitted an ethical clearance form to the research office for approval to continue with the research and an ethical clearance was granted to the researcher. A consent form was sent to the participants to sign. It was highlighted on the consent form that the participant's participation was voluntary and that they could withdraw at any stage from participating should they feel a need to. The consent form explained to participants that confidentiality and anonymity of records identifying the participant will be maintained by the Graduate School of Business and Leadership at University of KwaZulu-Natal. The participants were notified that the information gathered will only be used for research purposes.

ELearning is something that is still new in the public service so it is still a work in progress. The secondary data was collected mainly from documents, books and recent journals. The primary data collected was from participants who were involved in the conceptualisation phase as they answered questions based on their point of view. The researcher did a pilot study where two people were interviewed in order to test and improve the quality of questions and to test that questions were clear to participants.

The information gathered is reliable because the researcher interviewed different participants from different departments in order to test the reliability of the primary data gathered from participants. There was use of different sources from primary to secondary data so the primary data was tested against the secondary data collected.

In this way the researcher was able to see how reliable the primary data collected was based on how similar the primary data was to the secondary data.

1.11 Limitations

There were a number of limitations in this study:

- Resources e.g. funding was a constraint because a key participant was a government official based in Cape Town. This official had been part of the conceptualisation of eLearning in the public sector. There were no funds to travel to Cape Town to conduct a face-to-face interview so a telephonic interview was conducted instead.
- One of the participants had an unforeseen circumstance and could not be interviewed on a face-to-face basis and this resulted in a telephone interview.
- A certain government department did not allow for one-on-one interviews and instead arranged for the whole team to be interviewed, leading to a focus group interview being set up.
- The intention was to interview ten participants but due to the unavailability of some government official's only four participants were interviewed on a one-on-one basis and one focus group was conducted which consisted of three participants.

1.12 Outline of chapters

The study will be completed within five chapters as outlined below.

Chapter 1: Introduces the study and highlights the motivation for the study and presents problem statement, research questions and research objectives of the study. Limitations of the study are presented.

Chapter 2: Presents the literature reviewed during the study covering areas such as eLearning, quality standards of eLearning, how eLearning success can be measured, strategic planning, conceptualisation of eLearning process and eLearning through systems thinking.

Chapter 3: Provides the research methodology that the study used including the research design, sampling technique, data collection methods and data analysis

methods used. It explains the reason for choosing a qualitative research method for this study and the advantages of qualitative research.

Chapter 4**:** Presents the findings in relation to each objective and the analysis of data in relation to the literature gathered. Data was gathered from in-depth interviews with selected experts and a focus group.

Chapter 5: Concludes the study by highlighting how each objective was addressed. The chapter advises on how a systems thinking approach can be used in eLearning. Lastly there are implications of the research, recommendations arising from the study, and recommendations for future research.

CHAPTER 2 : LITERATURE REVIEW

2.1 Introduction

This literature review utilised a number of sources on eLearning such as books, journals and other relevant documents. Both national and international literature was reviewed. This chapter will explain key concepts such as the definition of eLearning. The issue of eLearning as opposed to orthodox learning will be discussed. This review will examine the quality standards of eLearning and explain scholars' views on how to measure the success of eLearning. Linking eLearning to strategic planning and Private Public Partnerships will be discussed as well as eLearning in the public sector and the conceptualisation of eLearning in other organisations. Finally, this chapter will review literature on how one can look at eLearning using a systems thinking approach.

2.2 What is eLearning?

In order to have an understanding of what eLearning is one must understand what learning is, as the process starts with learning. Learning is a process of whereby individuals obtain new skills so that they can increase their knowledge and in the process improve their performance and productivity (Kok, 2013:20). The main objective of learning is to improve an employee's performance so that the organisation can meet its goals, be it to maximise profit in the private sector or to improve service delivery in the public sector.

Kok (2013:20) defines eLearning as an innovative way to enhance learning and education. Stoltenkamp, (2012:145) defines eLearning as occurring when students use electronic technology to simplify the process of learning, which is done by making courses that already exist available online. Behera (2013:65) states that eLearning includes all methods of electronically supported learning and is the use of knowledge that is expedited mostly by electronic means. He further states that eLearning is a new innovation that is assisting students and provides greater opportunities for students. According to DPSA (2015:4) and Ellis and Kuznia (2014:1), eLearning is training which is conducted using Information and Communication Technologies (ICTs) as a tool for

learning online. ELearning has enabled access to new educational opportunities that was not available before because it breeds a new way of thinking and adds to the improvement of collaboration and interaction between members (Pamfilie, Bumbac & Orindaru, 2014:374).

Colace, De Santo & Greco (2014:37) stated that eLearning is an answer to the demand for lifelong learning. ELearning allows students to be able to retrieve and share information using multiple platforms and students can get access to information that is up-to-date. It also assists in computer literacy. With eLearning students have to take more responsibility for their learning as they have to make an effort to read and do the tasks that are given to them (Omer *et al.*, 2015:272). According to Avadanei, Loghin & Dulgheriu (2015:522) online learning is very popular nowadays and is seen as a possible way of solving different problems and as a way of saving time and money.

Tadimeti (2014:35) highlighted that in the 1990s there were a lot of changes such as companies experiencing downsizing leading to low budgets for training. During this time there was an increase in internet and wireless use and eLearning at that time started changing learning in a way that companies started using eLearning to train and equip their employees with skills they needed to perform their tasks. According to the Charted Institute of Personal Development (CIPD) annual survey of learning and development, most organisations have seen advantages and a need for eLearning and are now using eLearning in their organisations to train their employees.

Ellis & Kuznia (2014:1) stated that eLearning can be grouped into quite a few types which are: purely online, blended and hybrid and can be conveyed in different forms from eTexts, eBooks to video using video tape, audio, video conferencing etc. Technological innovations are leading to a demand and a need for a different way of education and learning using technology and communication systems as the need grows for eLearning in both public and corporate organisations (Ellis & Kuznia, 2014:1).

According to Cirnu, Nedleko and Potocan (2014:400-401) and Balasubramanian, Badrinath, Vijayabanu and Vijayanand (2014:5654-5655) there are three types of eLearning and they are as follows:

- *Synchronous eLearning*: this is when eLearning supports face-to-face learning where the teacher meets the students and uses network systems as a means of teaching. There are different ways that synchronous eLearning is conducted and these are through teleconferencing, video conferencing and screen casting etc. The advantage of this type of eLearning is that students are able to interact with the lecturers or teachers at any location. There is however a disadvantage to this type of learning and it has to do with time because both the learner and the instructor/lecture have to be online or available at the same time.
- *Asynchronous eLearning*: With this type of eLearning there is no face-to-face interaction as learning is done completely online. The author can create the content that needs to be studied and the learner can at any given time access it without the author being online at the same time. The communication and learning can be done through blogs, computer based tutorials, forums etc. This type of eLearning is convenient as time is not a huge factor.
- *Blended eLearning*: This is the combination of Synchronous and Asynchronous eLearning. It is seen as the most convenient learning especially for corporate institutions because it minimises costs while the employees are trained and equipped with the knowledge that is required.

Topor and Dinu (2014:498) state that there are a number of factors that influence the eLearning process including: access, applicability, selection, testing, analysis, discussion, understanding and collaboration and all these factors can be further summarised as shown in Figure 2.1.

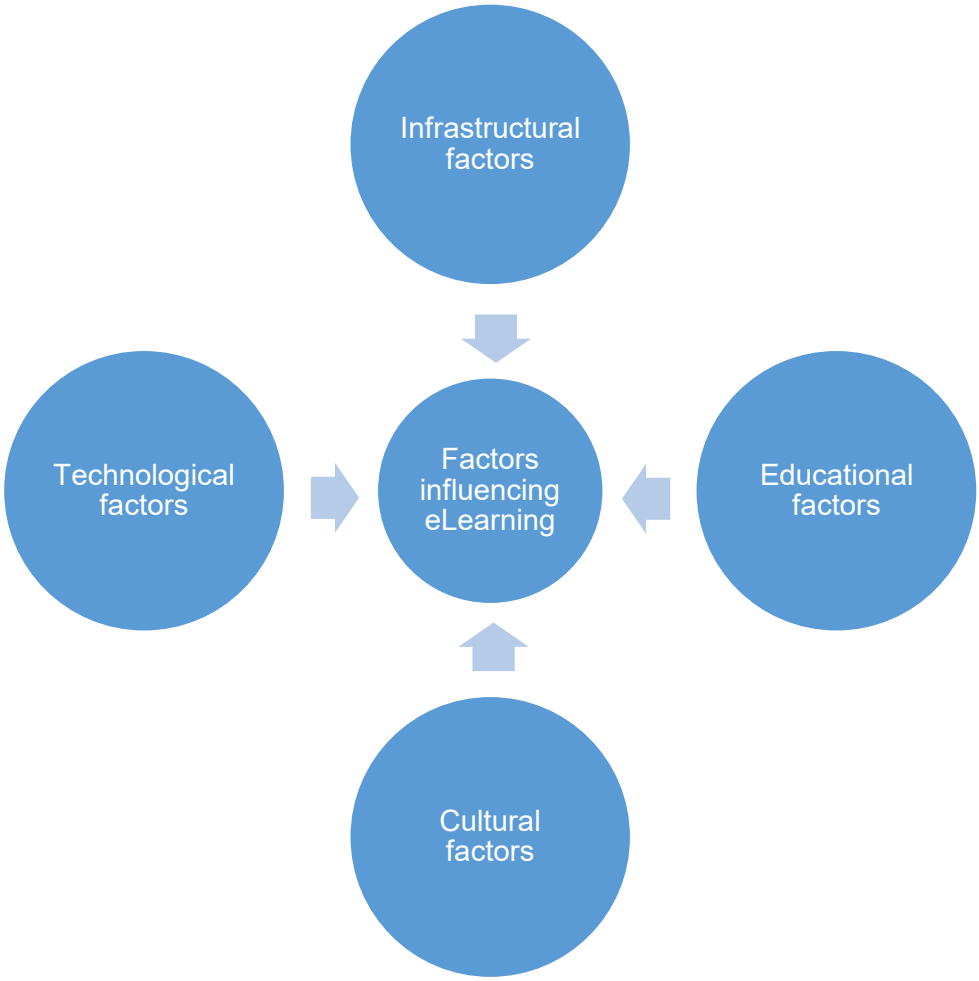

Figure 2.1: Factors influencing eLearning
Source: Adopted from Topor & Dinu, (2014:498)

2.3 Why eLearning as opposed to orthodox learning

There are many reasons why organisations and learning institutions have introduced eLearning as opposed to orthodox learning. Traditional learning has yielded some successes but with the technological advances traditional learning is faced with many challenges hence the need to introduce eLearning so as to deal with these challenges. It is becoming more difficult to get access to information using traditional means (Indereica, 2014:237). According to Cirnu *et al.* (2014:400) in the modern times that

we live in eLearning is a way of transferring knowledge and it impacts the operations of organisations.

Stoltenkamp (2012:146) highlighted that unlike traditional face-to-face learning one of the advantages of eLearning is that it allows students to do their tasks at their own pace and wherever it suits them the most. In other words they are not constrained to a certain time and having to be at a certain place in order to do their tasks. This learning can be done anywhere they see fit even in the comfort of their homes as long as they have all the resources they need. Sarwar, Ketavan and Butt (2015:246) added that the purpose of eLearning is to reach learners at a distance, where they might be having challenges in gain access to full time education or training. Furthermore eLearning matters because there is an increase in the gap between what we know and what we need to know in the new knowledge based economy. According to Kok (2013:22) an advantage of eLearning as opposed to orthodox learning is that access to learning is convenient because people can work at any hour and they are not limited to attending classes at a particular given time and they do not have to seek time off and ask for permission from their management to attend classes. ELearning worldwide has grown in an astonishing way and is an efficient and effective way of improving workforce development globally (Arthur-Mensah & Shuck, 2014:41). Furthermore organisations can use eLearning as an advanced tool for them to meet the ever increasing market and consumer demands (Arthur-Mensah & Shuck, 2014:42).

According to Giovanis (2015:47) if the eLearning programs are well-built they can assist companies in reducing travel and other employee costs associated with training and will improve the efficiency of the company. Arthur-Mensah and Shuck (2014:43) indicate that one of the reasons why eLearning is important is because from a Human Resource Development (HRD) viewpoint human resource practitioners can use eLearning to ensure that the current and future skills and needs of their employees are met with the aim of ensuring that there will be an increase in the organisations' performance and that it shortens the skills gap. The goal of eLearning is for an attractive and collaborative environment to be created so that the students or employees can be trained in a continuous learning process (Condruz-Bacescu, 2015:101).

According to Ellis and Kuzani (2014:1) eLearning is important as it keeps staff members' skills up-to-date and helps with the performance of employees. They further state that eLearning increases job satisfaction which leads to an increase in production and for the corporate industry it leads to a more competitive workforce and competitive advantage. Vasile and Teodorescu (2015:80) indicated that eLearning is not only transforming the way that we learn it also exposes new instruments and tools to more organisations which makes the way organisations work more convenient and easier. Companies want to be able to compete in completive global markets so they have put emphasis on eLearning as a way of training a huge number of employees in a short period of time (Vasile & Teodorescu, 2015:81).

2.3.1 Advantages of eLearning

There are many advantages to organisations of eLearning but Sitnikov, Kryk, Zhuravleva and Chupakhina (2010:43); Balasubramanian *et al.* (2014:5654) and Ellis and Kuznia (2014:1-2) have narrowed them down to the following:

- Experts that are identified by instructors can add value by sharing their knowledge in the learning process even when they are across borders.
- Organisations do not need to hire staff to develop learning material. All of this can be done online.
- Staff do not have to physically go and attend classes in one location; they can study and learn in the comfort of their homes or at work.
- Organisations can save costs because some training courses are very far from the individual's base meaning the organisation must pay for accommodation, meals and transport whereas with eLearning all those costs are minimised.

Sarwar *et al.* (2015:246-247) stated that eLearning is important in meeting society's need for continuous learning and it also contributes to having a workforce that is technologically oriented. It assists in responding to the demand for just-in-time training for employees.

Traditional/orthodox learning is ideal because there is interaction and role playing and students can form discussion groups, but eLearning has identified forms of interaction such as teleconferencing and videoconferencing which allow people to interact and

not feel completely isolated (Sitnikov *et al.,* 2010:43). Multimedia plays a huge role in motivating people who are engaged in eLearning.

Ellis and Kunznia (2014:1-2) state that eLearning is important as it is seen as a way of improving the performance of employees which leads to employee satisfaction and when employees perform well and are satisfied there will be an increase in production. According to Kebaetse, Nkomazana and Haverkamp (2014:43) eLearning increases motivation, productivity and performance of staff as the information gained leads to skills gained as well.

2.3.2. Disadvantages of eLearning

ELearning has its own challenges. Ellis and Kuznia (2014:4-5) mentioned that organisations might face a situation where their employees are not fully equipped technologically, making it hard to introduce and implement eLearning. Another challenge is resistance. Some employees might be resistant to change and it is very hard to deal with resistance (Ellis & Kuznia, 2014:5). According to Stoltenkamp (2012:146) eLearning must not replace traditional learning; both traditional and eLearning should be blended together in order to achieve better production, better service delivery, leading to better equipped and skilled employees.

Tarus, Gichoya and Muumbo (2015:131-133), writing about the situation in Kenya, highlighted a number of challenges that might have an impact on eLearning implementation:

- Not having proper ICT infrastructure such as computer labs, computers and network/internet connectivity.
- Expense of internet bandwidth.
- Some universities in Kenya do not have eLearning policies making it hard to implement eLearning.
- Developing eLearning content takes time and needs a lot of resources such as computers.
- The teachers and learners might not be committed to use eLearning because they might not be motivated and this could be due to them not being involved in the conceptualisation of the eLearning process.

- ELearning needs technological skills as it is conducted using electronic devices. The lack of skill may make it difficult to benefit from the advantages of eLearning.

With eLearning some students study on their own and there is not face-to-face interaction with the fellow students. This can be a very lonely process. With orthodox learning it is easier to engage and communicate with fellow students as they see each other face-to-face which enables them to share experiences which eases the learning process because experience is the best way to learn. With eLearning this is hard to achieve, which is a disadvantage.

ELearning allows for ease of access and reduces costs (Silvestru, Burcezan, Bere & Lupescu, 2015:96). Sitnikov *et al.* (2010:43), Silvestru *et al*., 2015:96) and Ellis and Kuznia (2014:1) have stated that eLearning saves costs, but Behera (2013:71) is of the view that eLearning is costly. According to Behera (2013:71) eLearning costs more than orthodox learning because eLearning tools are expensive and it is very costly to replace them. He argues that eLearning is not reachable by all students as some students do not have resources to purchase the necessary electronic tools.

According to Mittal (2015:1) eLearning offers a competitive advantage globally as the world is facing fast paced technological advantages especially in the education and training sector. With eLearning training can be offered using many different ways such as text, video, sound etc.

In order to minimise the challenges of eLearning, the eLearning being offered should meet high quality standards.

2.4 Quality standards of eLearning

Quality education, training and learning is very critical which is why even with eLearning there must be a quality standard. These quality standards must support best practices in eLearning (Barker, 2007:109). ‘Quality’ is when something has been thought about carefully, well researched, prepared in the best way with sophistication and at the same time is flexible in the complex system that we reside in. According to Despa (2014:486) quality planning is necessary because it involves defining standards that have to be followed and is used to estimate and measure. Scrutinizing eLearning

quality involves checking compliance, usability, reliability, repeatability, availability and security.

Grifoll, Huertas, Prades, Rodríguez, Rubin, Mulder and Ossiannilsson (2010:18) state that the quality of education indicates the relations between learning, goals, standards, demands and requirements outlined by organisations, the state, businesses and individuals. They further state that quality of education can be broken down to quality of academic staff, teaching equipment, program, institution and research. Service quality is all about ensuring that customer needs and expectations are met (Mittal, 2015:5). According to Alexander and Golja (2007:18) benchmarking is very important because then it is possible to compare and measure eLearning against criteria that have already been established then ultimately new criteria using innovation can be created. Ellis and Kuznia (2014:5) state that accurate evaluation tools are needed to analyse the quality of eLearning.

According to Andronie and Andronie (2014:443-445) there are four levels of credibility in assessing quality standards, namely:

- Accreditation: This is the minimal standards which are usually enforced by government institutions.
- Certification of products and services: this serves to guarantee better quality of products/services being offered to the public.
- Certification of quality management systems: mostly used by enterprises that obtain the products and services mentioned in the second level.
- Quality awards: only offered to a few organisations that consistently prove that they can get outstanding results over time.

Neacsu and Adascalitei (2014:527-528) have highlighted the main quality assessment models, namely:

- The model launched by Wang and Strong in 1996 which is the Conceptual Framework for Data Quality (CFDQ). It is convened in four groups: accessibility, easy to interpret, relevant to the end user and accurate (coming from a reliable source). According to Alkhattabi, Neagu and Cullen (2011:344-345) the Wang Strong data quality framework categorised quality dimensions into four groups which are intrinsic, contextual, presentational and accessibility.

- The eLearning Quality (ELQ) model was developed by the Swedish National Agency for Higher Education involving 10 steps for quality assessment of eLearning which are: selection of the material, virtual environment, the importance of communication, corporation and interactivity, student assessment, the flexibility and adaptability of eLearning, support given to learners and staff, how competent the staff is in terms of qualifications, the vision of the institution, resources being allocated according to the specific needs of eLearning and then the eLearning process as a whole.
- The Initiate, Do, Evaluate, Act (IDEA) model can be applied to eLearning because it is intended to improve the quality of education and professional training.

According to Neacsu *et al.* (2014:427) there are a number of organisations in Europe which develop quality standards in eLearning, namely: the European Foundation for Quality in eLearning (EFQUEL), the European Association of Distance Learning (EADL) and the British Council for quality in an open system and at a distance (Open and Distance Learning Quality Council - ODL QC). The EFQUEL is responsible for offering quality certificates in implementing eLearning and its primary focus is to ensure that the online studies that are offered are of good quality.

Vilceanu, Herban, Grecea (2015:584) stated that it is important for quality assurance models to be designed in line with the general framework which was established by the European Association for International Education (EAIE). The reason behind the model is to present the factors that explain quality.

The model is represented in Figure 2.2.

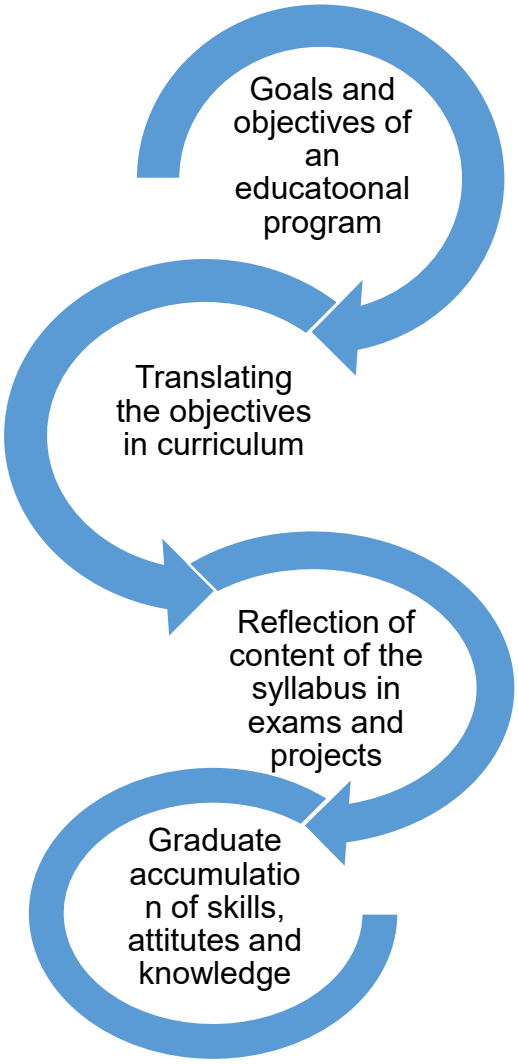

Figure 2.2: Model for quality assurance
Source: Adopted from Vilceanu, Herban, Grecea, (2015:584)

Abrusch, Marienhagen, Bockers and Gerhardt-Szep (2015:1) highlighted that Quality Management Systems (QMS) in learning institutions should meet international standards. Below are the specific features of QMS (Abrusch *et al.*, 2015:2):

- *Certification of eLearning (CEL)* – involves the quality assessment of educational programs. CEL assess the overall training module.
- *Deutsches Institut fur Normung e.V: Publicly Available Specifications (DIN-PAS 1032-1)* – this was developed by a group of the German Institute for Standardisation named Quality in eLearning. It expands on the processes for

planning, developing, conducting and evaluating of educational programmes specifically the ones that are supported by eLearning.

- *Qualitatsintiative eLearning in Deutschland (Q*.E.D) – its main focus is to improve the quality of work process-oriented eLearning in Germany based on quality standards.
- *Qualitatssiegel eLearning (QSeL)* – this assists to certify and document the practical application of the quality models as it complements the approaches, concepts and process of quality management in eLearning that already exists.
- *Technical University of Darmastadt (TUD)* – this is a system that serves as a quality standard as it ensures educational and improving quality of information technology.
- *Nordrhein-West-falen (NRW)* – it provides a method for the authorisation of educational modules for the continued-education portal of NRW.

2.5 Benchmarking

According to Grifoll *et al.* (2010:32) one of the common approaches to quality assurance and development is benchmarking. It is usually used in different economic sectors and higher education even though it is not yet common to use benchmarking for eLearning in higher institutions. Benchmarking is comparing standards with the aim of changing an existing state or improving performance by being educated about possible improvements. Bacsich (2010:9-10) provided some background on where benchmarking originated. Benchmarking was initiated in the United States (US) due to the pressure being experienced in the competitive market. It is important that individual institutions get a clear understanding of their own positions on eLearning and to measure themselves against organisations with the same goals. Grifoll *et al.* (2010:33) identified that there are ten good reasons why participating in benchmarking is important and these are:

- The organisation can conduct a self-assessment to gain insight into themselves.
- Gaining an in-depth understanding of the organisational processes that are currently in place.
- Measuring and comparing the organisation with similar organisations.

- Being innovative through discovery of new ideas while conducting the benchmarking process.
- Engaging in research because data obtained will assist decision makers to make more informed decisions.
- Setting new targets in order to improve the organisation.
- Strengthening the institution's identity and in the process improving the institutions reputation.
- Gaining insight on how best to formulate strategy and implement it.
- Improving response to national performance indicators and benchmarks.
- Being able to set new standards in the learning environment.

Once the eLearning has been measured for quality standards and has gone through the benchmarking process organisations must be in a position to be able to know how they are going to measure the success of eLearning.

2.6 Measuring the success of eLearning

According to Ellis and Kuznia (2014:3), the success of eLearning lies or rather depends on the support from the organisation, training of the employees to be able to utilise the equipment and the commitment of top management in the organisation because without management nothing in the organisation can be done usefully as most approval comes from the top. Ellis and Kuznia (2014:3) stated that another measure of eLearning success is the value it has for all stakeholders. For example, in the public sector, if employees benefit by gaining skills, and the public benefit by being provided with better service delivery, then that will have been a successful eLearning program. According to Tarus *et al.* (2015:121) eLearning success depends on sufficient technical skills of the instructors and the students in order to use the eLearning tools in an effective way.

In order for eLearning to be successful the eLearning activities must be linked to an innovative culture (Cirnu *et al.* 2014:401). According to Cirnu *et al.* (2014:401) the success of eLearning is also based on the morals of people that will be participating in eLearning and how ready these participants are for this type of learning.

Balasubramanian *et al.* (2014:5653) stated that just as with traditional learning there are two factors involved in measuring the success of eLearning: a) is the learning completed at the time it was planned to be completed, b) is the knowledge that was supposed to be acquired from the course actually acquired? According to Drange and Roarson (2015:443) success begins at the conceptualisation stage – the design team must be able to think like students so they can address all the challenges beforehand in order to design an eLearning program that has considered all possible challenges. For example the text must be short because long text makes some students lose interest in reading it.

A factor that also contributes to the success of eLearning is developing appropriate eTraining to ensure that there is conversation, demonstration of the course and practice in order for students to familiarise themselves with eLearning (Cristescu, 2015:489). Andronie (2014:34) states that eLearning is measured in terms of technological performance. There are a number of benefits associated with measuring the performance of educational programs with eLearning including improving the effectiveness of the training. Measurement shows whether the investment to implement an eLearning system is justified (Andronie, 2014:34).

Noesgaard and Orngreen (2015:281) proposed how the effectiveness of eLearning can be defined i.e. how the success of eLearning can be measured (see Table 2.1).

Table 2.1: Effectiveness of eLearning

Effectiveness of eLearning	Explanation
Transfer	Application to practice
Learning outcome	Acquiring new understanding
Perceived learning, skills or competency	Ability to apply the content
Completion	The course must be completed
Application to simulated work practice	Ability to apply the skills learned through eLearning in the workplace
Cost effectiveness	Saving of training costs
Skills acquired	Successful in acquiring the skill that was acquired.

Source: Adopted from Noesgaard & Orngreen, (2015:281)

Donald Kirkpatrick developed learning levels which are used in assessing the effectiveness of eLearning (Vasile & Teodorescu, 2015:81). The Kirkpatrick Model was developed in the 1950's and has the support of the Association for Talent Development (ATD) (Vasile & Teodorescu 2015:82). The ATD is a professional group which support the development of knowledge and skills of employees (https://www.td.org). Kirkpatrick's model is also referred to as The Learning Levels as the impact of learning on four levels is studied (Vasile & Teodorescu 2015:82) (Table 2.2):

Table 2.2: Kirkpatrick's Learning Levels

Level	Description
Level 1 – Reactions	According to Kirkpatricks model this type of evaluation is to review the learning program where the trainee's opinion on the effectiveness of the training is gathered with the aim of improving the learning. This is the first step of the evaluation process.
Level 2 – Learning	Measure if the knowledge and skills that were supposed to be acquired were indeed acquired. This can be done through self-assessments online, tests and formally through interviewing trainees and through observation.
Level 3 – Transfer	Evaluates if the trainees are able to transfer the knowledge and skills gained in the work place. This cannot be measured immediately after training but over time.
Level 4 – Results	This measures the organisation if there is an increase in production; if the quality has improved, if costs have been reduced, etc. This is one of the hardest levels to measure because there are many factors that contribute to the organisations performance results. It is not only limited to the training of employees. It makes it difficult to measure the direct impact of training.

Source: Adopted from Vasile and Teodorescu, (2015:82)

Everything in the public sector is informed by policies and strategies. For this reason eLearning strategic planning is vital and it should always be linked to the overall strategic plan of the organisation and the human resource development plan.

2.7 Linking eLearning to strategic planning

Most organisations have a strategic plan. This is a plan that applies to the whole organisation, when the vision of the organisation is created and translated into a mission statement that can be used to measure short, medium and long term goals (Brevis & Vrba, 2014:238). Kok (2013:20) mentions how important an integrated learning strategy is for eLearning to be effective and how some companies have adopted eLearning without having a strategic view of its development. The DPSA

(2015:6) mentions the legislative framework which includes human resource development strategic framework, national skills development strategy and e-Government strategy. It also explains how eLearning is a strategic initiative which requires accountability and collaboration from all levels including but not limited to national, provincial and organisational levels. It is essential for organisations to be able to properly determine their training strategy so that they can meet the demands from their clients / the public (Sitnikov *et al.*, 2010:41). Ellis and Kuznia (2014:3) stated the importance of aligning eLearning to the company's strategy. In other words the eLearning should not be done just because other companies are doing it. It should be informed by internal strategy and should assist in meeting the company's strategic objectives/goals.

According to Singh (2014:558) multiple authors are warning against using top-down strategies in developing learning technologies. A top-down approach is when the main actors who are the decision makers are the ones who are seen as being more relevant in producing the desired effect. Singh (2014:558) recommends reconciliation of the top-down and bottom-up approaches with the aim of not having resistance from the academic staff who will be the implementers of the eLearning program. A bottom-up approach means the solution to the problem is worked from the bottom to the top. There is a suggestion that eLearning projects can be influenced by an individual staff member or a small group because they are the ones who deal with the day to day teaching of the students so it does not necessarily have to come from the top management meaning that the top-down and bottom-up approaches must be resolved. ELearning literature states the importance of involving all stakeholders in the eLearning strategy development so that this will decrease the resistance to implementing the eLearning strategies because the stakeholders are the ones who will be the implementers. If the stakeholders e.g. the academic staff are not involved in the high-level decision making of the eLearning development they will feel that they are not important and that that the roles they play in the institution are not taken seriously (Singh, 2014:560).

Giovanis (2015:47) highlighted the importance of strategic planning for creating effective global eLearning and to minimise the mistakes that can discourage learners. Furthermore as part of the strategy the companies must take into account the budget,

time, design and content relevancy. Before eLearning is conceptualised during the strategic planning phase the companies must take into account what it is that they want to achieve in other words the results that they are hoping to reach with eLearning.

Grifoll *et al.* (2010:36) write about how eLearning is a part of the strategic plan of Lund University. This plan highlights how and why eLearning can be utilised and developed in order to facilitate learning and have prioritised four areas in the strategic plan, one of which is having an attractive study and learning environment (including for eLearning).

Some public sectors prefer to work with the private sector so they include the private sector in their strategic planning. The reason for this is they want to gain more expertise in how they can meet the public needs. For this reason the study explores private public partnerships in eLearning.

2.8 Public Private Partnerships in eLearning

Gherman and Predonu (2013:405) describe private public partnerships (PPP) as coordination or cooperation between the private and the public sector from a financial point of view in order to meet the public needs through providing goods and services of high quality. Debande (2004:192) does however argue that PPP is not only based on financial needs, but should also consider the approach of delivering education services where the public sector nominates a private contractor to assist in delivering this service. With PPP both parties must benefit from the partnership. According to Debande (2004:201-202) the following factors are important when developing PPP in eLearning:

- Both parties must be flexible and must be responsible in delivering better management and efficiency from a financial and quality point of view.
- With PPP the public sector and the private sector must have common objectives which are aligned with the stakeholders' interests.
- For PPP to be successful the private and public sector must be involved from the start meaning during the development phase the PPP must be able to provide value for money as there must be the best use of resources right from the start. There must be transparency.

According to Kebaetse *et al.* (2014:46-47) partnerships in eLearning are very important and there are two types of partnerships that the University of Botswana has engaged in as part of their eLearning strategy and these partnerships are as follows:

- Botswana University has partnerships within the university. These partnerships include the university's Information Technology (IT) department, the library, and campus services which assist with the non ICT infrastructure such as furniture.
- Botswana University has also partnered with external partners (those who are outside the university) for example the telecom company, consulting company and the Ministry of Health.

Arthur-Mensah and Shuck (2014:43) state that Tanzania partnered with European countries in order for Tanzania to improve learning while reaching a large population of students through the use of mobile phones and the programs that they used were funded by the United States Agency for International Development (USAID). This proved to be a very effective way of learning although more resources and advanced digital devices are still needed. According to Arthur-Mensah and Shuck (2014:45) it is important for stakeholders to collaborate in order to ensure that there is proper support and infrastructure.

Tarus *et al.* (2015:134) elaborated on the advantages of partnerships including working together to address educational and developmental issues and supporting technical and human capacity building with the aim of improving training and learning.

There are two perspectives of eLearning in the public sector that will be outlined in the study which are the international and the South African perspective.

2.9 ELearning in public sector

2.9.1 International perspective

Langford and Seaborne (2003:50) state that eLearning is viewed as a cheaper and more effective way for the public sector to provide their employees with consistent learning in order to equip them with skills that they need to be productive and to improve the public sector outcomes. The public service has been faced with a challenge of providing formal and informal learning opportunities. According to

Langford and Seaborne (2003:50) a solution to the training and learning challenge faced by the public sector is for the public sector to adopt and practice eLearning. Langford and Seaborne (2003:55) state that the American Society of Training and Development conducted a study and reported that worldwide there has been a growing use of eLearning both in the public and the private sector.

2.9.2 South African perspective

South Africa has seen the need to introduce eLearning in the public sector because of the challenges that are faced by the public sector. One of the major challenges is the lack of skills in the public sector. The DSPA was tasked to produce a policy and guidelines on eLearning for the public service and this is a document which will guide the South African public sector with the implementation of the eLearning strategic plan (DPSA, 2015:3). There has been a pilot project where the eLearning guidelines were implemented at the Gauteng Department of Education and the National School of Government. Other South African government departments have implemented eLearning in their organisations for example the Department of National Treasury and the Department of Health (Treasury) (Tamasane *et al.,* 2004:3).

2.10 The conceptualisation of eLearning in other organisations

The University of the Western Cape (UWC) has established the eLearning Development and Support Unit (EDSU) which is responsible for developing and creating an integrated eLearning Model. According to Stoltenkamp (2012:149) EDSU created an integrated eLearning model using three phrases and each phase was a build up from the previous phase. This means that Phase One must be complete before Phase Two can begin. The output of the previous unit becomes the input for the following unit (Brevis & Vrba, 2014:346).

The three phases of this model (Stoltenkamp, 2012:149-151) are shown in Figure 2.3.

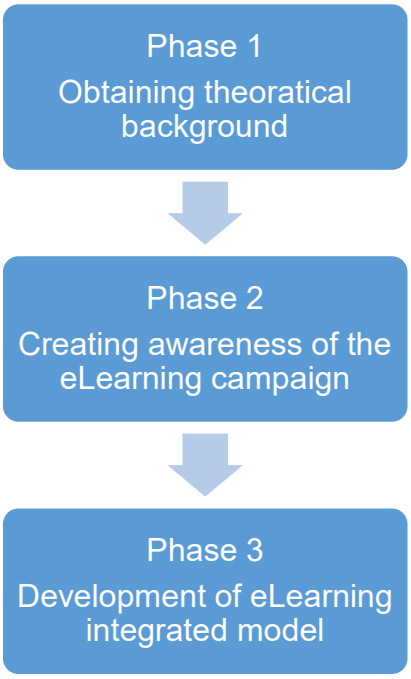

Figure 2.3: UWC integrated eLearning Model
Source: Adopted from Stoltenkam, (2012:149-151)

The UWC model was developed as follows:

- The first phase was when a theoretical background was established, literature was reviewed and the eLearning strategy document was consulted. The importance of the strategic plan in this phase was to identify the strengths and the weaknesses of the organisation so they could identify what the organisation wanted to achieve. From this phase the initial eLearning model was developed.
- The second phase added on to / built on the first phase and focused on the awareness of the eLearning campaign with the aim of introducing eLearning so that the stakeholders could familiarise themselves with this form of communication, with the content construction and the valuation of the eTools. There was a qualitative and quantitative study conducted through interviews and questionnaires being sent out to the stakeholders.

After consulting the literature review, the strategic plan of the organisation, and preliminary research being conducted and the results analysed, EDSU was in a position to enter into the third phase where the integrated eLearning Model was developed. According to Stoltenkamp (2012:153) in order to develop an integrated eLearning model a certain process must be followed. In this case the three phases consisted of the literature review, data collection using both qualitative and quantitative methods (i.e. a mixed methods approach), and developing an integrated eLearning model Giovanis (2015:49) listed steps which are the best practices that can be followed when conceptualising eLearning as listed in Figure 2.4.

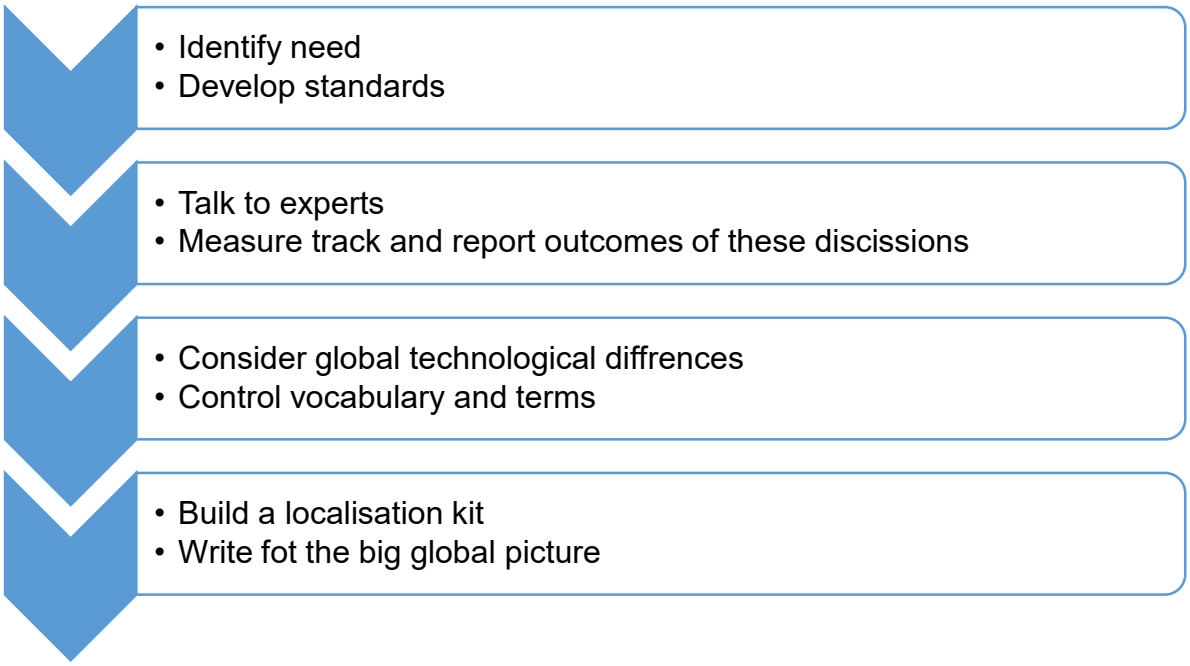

Figure 2.4: Eight best practices for corporate eLearning initiatives
Source: Adopted from Giovanis, (2015:49)

Giovanis (2015:49) explains the steps as follows:

- *Identify the need:* it is important that before anything is conceptualised by companies there must be a need for it. The first step involves identifying that there is a need and what exactly the need is. This assists in prioritisation for eLearning training.
- *Develop standards:* this is when the languages, graphics and the consistent look and feel is taken into account. The eLearning programs should follow the standards of the company as this will lead to facilitating efficiency during the conceptualisation phase.

- *Talk to the experts:* it is always advisable to use experts at the early stages and with eLearning experts should be brought in right at the beginning of the conceptualisation phase. This is to ensure that there is efficiency and effectiveness.
- *Measure, track and report outcomes:* each country, organisation and individual is different. It is therefore vital to consider an eLearning program that is based on the targeted learners. A one-program-fits-all approach does not work so assessment of the target market should be conducted.
- *Consider global technological differences:* since technology is ever changing and organisations have to move with the technological changes, so does eLearning. It must be designed in a way so that it moves with the technological times because it will be useless if the applications used are not in line with the technological advances.
- *Control vocabulary and terms:* this deals with idioms and cultural references.
- *Build a localisation kit:* the localisation kit helps in keeping the projects on time which leads to keeping costs low and minimises the miscommunication with language service providers.
- *Write for the big, global picture:* the eLearning program should be designed in a way that it fits globally when it comes to training.

In the case of a Turkish bank, their eLearning development team consisted of one of the managers, one developer, a third party company that developed most of their web courses and the team that works and engages with the content experts. It also included the people in the company that owned the content of the eLearning packages and those who made sure that the information was always up to date and relevant (Kok, 2013:22).

Kebaetse *et al.* (2014:44) have identified strategies to make sure that the eLearning process is successful when it comes to implementation namely:

- The choices of choosing a curriculum should be focused on the learner. This is choosing technology that will be convenient for the learners.
- Taking into consideration the infrastructure need is important and this involves designing teaching and learning spaces. Appropriate infrastructure must be available for effective eLearning strategies. Infrastructure includes information

technology (IT), non-ICT infrastructure and personnel infrastructure. Information technology infrastructure is important because eLearning is all about learning using technology more specifically the internet. Non-ICT is the physical space including furniture, equipment etc. Personnel infrastructure is the consideration of skills and ensuring that there are people who have the required skills and expertise in order to carry out the eLearning strategy.

- The importance of partnerships needs to be considered and these partners must be involved right from the beginning of the idea at the conceptualisation phase to ensure that all parties are on board with what needs to be achieved. Partnerships draw on a variety of experts and service providers and play a role in innovation. The partnership should include both internal partnerships and external partnerships. Partnerships explore beyond what an organisation or department can achieve on its own.
- International engagements with the faculties and students. It is vital to engage with the students and the faculties as these are the stakeholders in learning. The engagements should be with the aim of developing a shared vision and receiving feedback because the purpose of eLearning is for the benefit of learning for the students.
- Training and support for the students and faculty must be provided. This includes training on how to use technological devices to enhance learning.
- Sustainability and continual consideration. Engagements with all partners are necessary especially the IT department to ensure that there will be sustainability. It is also critical to be creative about how the technologies that need continuous replenishment will be funded.
- The need to do continuous evaluation where feedback is received from students (Kebaetse *et al.,* 2014:44-49).

According to Ellis and Kuznia (2014:5) it is important for organisations to include all stakeholders in the conceptualisation of the eLearning process because employees will be less likely to resist eLearning if they are part of the conceptualisation process as being part of the process assists employees to understand the reason why eLearning is being introduced and its importance.

2.11 Systems thinking approach

The literature presented thus far has concentrated on linear, mechanistic and reductionist thinking in trying to understand eLearning and what it entails, and the conceptualisation of the eLearning process. This section of the literature review takes a different approach and views eLearning through a systems thinking approach. There must be something that leads to any organisation – be it private or public sector – introducing eLearning and in most cases it arises from the need to address certain complex problems such as improvement of technology and its impact in the public sector's way of doing things or addressing the time issue where employees do not have time to go to a classroom away from work to learn. This has led to some authors introducing the systems thinking approach as a way to try and deal with complexity. Before we try to understand systems thinking and complexity we must understand what a system is and what is meant by complex problems.

According to Jackson (2003:3), a system is a whole which is made up of a number of parts that interact and work with each other. A system resides in an environment that has boundaries. Neumann (2013:82) defines a complex problem as a problem where it is hard to predict its future because it is hard to fully understand the problem. Complexity on the other hand involves a huge number of interactions and underlying forces twigs from feedback loops where one variable depends on the other variable (Neumann, 2013:82). This brings us to the definition of systems thinking, which states that systems thinking is a holistic way of looking at problems where one looks at how the parts of the organisation interact in order to deal with complexity in a creative way and this brings about change and diversity (Jackson, 2013:3).

In eLearning it is important to understand system dynamics in order for the eLearning to be effective and successfully. According to Van Dyk and Pretorius (2014:71) systems dynamics are important to improve the understanding of feedback from different factors within the system, particularly factors such as soft human issues. A systems thinking approach challenges the traditional way of doing things where there are expectations, guarantees of the final answer and control. Riley, Robinson, Gamble, Finegood, Sheppard, Penney and Best (2015:50) state that with complex and dynamic systems patterns do not repeat themselves, they change and the results are not guaranteed to be as expected and due to this it is vital to avoid solving complex

problems using a formulaic approach. No situation is exactly the same as the other. An understanding of the systems thinking approach and what it entails will now be discussed.

2.11.1 From reductionism to systems thinking

Reductionism is the traditional scientific way of understanding and studying systems. This is when a system is understood from the parts leading to the whole. The problem with this way of understanding a system is that it does not deal with complexity and in some cases one may not be able to identify the whole from the parts (Neumann, 2013:82). Because the reductionist way does not accommodate complexity, systems thinking – also known as holism – has emerged (Flood, 2010:269). With systems thinking it is important that the parts must work together and through the process there is creativity. In eLearning conceptualisation the public sector can be seen as a system and eLearning as an emergent property to address certain issues within the public sector. The management of the public sector can use systems thinking as a paradigm in shifting the way that they think (from reductionism to holism) because it is more suitable to the ever changing complex environments which the public sector resides and operates in.

2.11.2 System dynamics

Systems dynamics is important in determining the structure of the organisation in complex systems as management must make sure that the behaviour of the system is in line with the organisation's goals (Jackson, 2003:67). Jackson (2003:67) insists that there must be boundaries that are defined in order to include the parts that interact to influence the behaviour and allow for the parts that do not contribute or influence the behaviour to be excluded. The key driver of performance and behaviour over time of a dynamic complex system is feedback loops (Kunc, 2012:30). These feedback loops can either be positive or negative. The positive feedback loops support change and the negative feedback loops inhibit or hinder change (Caldwell, 2012:152). According to Riley *et al.* (2015:50) feedback loops are essential in using knowledge to inform action during decision making and they contribute to the generation of factual information that can be used by policy and practice organisations. Through feedback

loops the organisation can get an understanding of what the system in focus is and the relationships and interests of the stakeholders.

2.11.3 Hard Systems Thinking

The birth of operational research, systems analysis and systems engineering and their similarities has led to the emergence of hard systems thinking. According to Jackson (2003:47) hard systems thinking is a way of dealing with real world problems. Hard systems thinking uses models which are intended to capture how the systems work and make it easier to identify problems (Jackson, 2003:50). It is important to note that models do not state that they symbolise or represent anything in the real world, they are simply ways of thinking which lead to ways of improving problematic situations. Hard systems thinking work bests when the problem is properly defined and carefully analysed (Dawidowicz, 2011:2). With hard systems the problem is known and perhaps what the solution will be is also known; the main aim is to enhance knowledge of the problem by improving models.

2.11.4 Cybernetics

The Viable System Model (VSM) was created by Stafford Beer and is centred on cybernetics (Hildbrand & Bodhanya, 2013:3). The VSM can be applied in any company whether small or large including the public sector. According to Hildbrand and Bodhanya (2013:3) VSM identifies the most important features that make the systems viable meaning the system's ability to change with its environment, to exist independently and to be able to sustain itself even with the internal and external factors at play. There are certain elements that are described in the VSM which are needed for the system to be viable. Hildbrand and Bodhanya (2013:3-4) described that these elements include five subsystems which are briefly discussed below:

- System 1: the basic operations where the day to day operations of the organisation takes place.
- System 2: coordination which is accountable for coordinating the operations in system 1.
- System 3: daily management and control which performs the function of facilitation and evaluation also referred to as short term management.

- System 4: development where the systems environment and external trends are investigated so that opportunities can be identified.
- System 5: policy, which is where the system's/organisation's policies, vision culture and direction is determined.

According to Hildbrand and Bodhanya (2013:11), the VSM is suitable as it supports management in dealing or trying to understand and deal with complexity as each level from System 1 to System 5 handles part of the complexity which affects the whole organisation and there is no interference from top management. The VSM can also assist in restructuring the organisation with the aim of helping managers to cope with complexity.

2.11.5 Soft Systems Methodology

According to Jackson (2003:181) soft systems methodology (SSM) deals with wicked problems. A wicked problem being something that is very difficult to solve. This methodology has four models: drawing a rich picture which allows for the problem situation to be visible for everyone to see; root definition; conceptual models, and; comparison. Flood (2010:277) and Jackson (2003:187) state that SSM introduces CATWOE for the construction of root definition where C is for customers who are the beneficiaries and or anyone who will be affected either positively or negatively in the transformation process, A is for actors i.e. the people who will be involved in undertaking the transformation process, T is for transformation where the inputs will be turned to outputs, W is for world view, O is for owners who can stop the transformation process and E is for environmental constraints which is anything outside the system that can have an effect. The models in the hard systems approach are meant to be representing the real world but they do not accommodate the human aspect. With SSM the human behaviour and relations between humans is important because SSM understands that there are bound to be some disputes in the system and conflicting goals because the system is unpredictable and there is no known and certain solution (Jackson, 2013:196).

2.12 Conclusion

This chapter reviewed the literature on eLearning highlighting what eLearning is as well as the advantages and disadvantages of eLearning. The literature provided an understanding of why eLearning is preferred over orthodox learning, the importance of having quality standards in eLearning through benchmarking and how to measure the success of eLearning. Furthermore the importance of having an eLearning strategic plan and coordination with the private sector is highlighted. The chapter also explored eLearning in an international and South Africa context and the chapter ended by explaining the systems thinking approach.

CHAPTER 3 : RESEARCH METHODOLOGY

3.1 Introduction

Research methodology is important because it shows how the study was conducted in order to meet or get answers to the objectives and research questions. It shows which research instruments were used in the study. It is through these research instruments that the examiners examine if the methods used to answer the objectives are appropriate and if they meet the quality requirements. This chapter starts by outlining the aim of the research which explains the need for the research to be conducted. This chapter shows a plan that was used to conduct the study, including the participants and location of the study, research approach, sample size and data analysis methods used.

3.2 Aims of research

Du Plooy-Cilliers, Davis and Bezuidenhout (2014:73-74) stated that there are different reasons why research is conducted, namely: pure research, which is usually conducted for generating knowledge with the aim to add to the knowledge that already exists, and; applied research which is conducted to examine real life issues with the aim of finding solutions and implementing them. Applied research is vital in figuring out if the solutions to problems are possible, evaluating the policies and practices that already exist, recommending changes to be implemented and identifying what are the new areas that still need to be researched. This study followed an applied research approach because it was conducted in order to get an understanding of how the conceptualisation of eLearning was being implemented with the aim of giving recommendations to policy makers on eLearning. The main aim of the study was to address the objectives which are:

1. To investigate why the South African public sector introduced the concept of eLearning as opposed to orthodox learning and whether eLearning quality standards for consumer protection were conducted?

2. To identify key features of the South African public sector eLearning strategic plan, who was involved in the conceptualisation of eLearning process and what approach was used?
3. To investigate the challenges facing the South African public sector prior to introduction of the eLearning concept and whether there was any coordination with the private sector?
4. To investigate what the South African government is hoping to achieve by introducing eLearning for the public sector and what are the key indicators for measuring the success of this introduction.

According to Du Plooy-Cilliers *et al.* (2014:80) there are different types of research as outlined in Table 3.1.

Table 3.1: Different types of research

Type of Research	Aim of study
Exploratory	This research is conducted when there is a problem that is not clearly defined. It is when something new is being explored and there is a need to become familiar with unknown situations or policies.
Descriptive	Conducted to describe a situation and there are three ways in which this can be done, they are: 1. Observational; where the researcher views and records the participants 2. Case study; this is when a researcher wants to conduct and in-depth study of an individual or group of individuals e.g. using a company as a case study 3. Survey; the researcher conducts a brief or engages in a discussion with an individual about a specific topic.
Correlative	Conducted to understand the relationship between two variables.
Explanatory	It is done with the purpose of connecting ideas to understand the cause and effect, in other works it is to explain what is going on
Predictive	This is mostly done when conducting quantitative research and it is to promote preferred outcomes and to anticipate possible outcomes.
Pragmatic	This is the use of mixed methods which is both qualitative and quantitative research as it realises that every method has its limitations and that the approaches can complement each other.

Source: Adopted from Du Plooy-Cilliers *et al.*, (2014:80)

This study conducted descriptive research, specifically survey based research, where a questionnaire was used to conduct one-on-one interviews with the participants. The aim was to understand the conceptualisation process of eLearning by answering the research questions.

3.3 Research questions

This study aimed to answer the following research questions:

- Why did the South African public sector introduce the concept of eLearning as opposed to orthodox learning and were eLearning quality standards for consumer protection conducted?
- What is the South African public sector eLearning strategic plan, who was involved in the conceptualisation of eLearning process and what approach was used?
- What were the challenges facing the South African public sector prior to the eLearning concept and was there any coordination with the private sector?
- What is the South African government hoping to achieve by introducing eLearning for the public sector and what are the key indicators for measuring the success of this introduction?

3.4 Participants and location of the study

In selecting the participants the researcher was guided by the objectives of the study. Since the study is based on understanding the conceptualisation of eLearning in the public sector the individuals that were selected are the individuals who were involved in the conceptualisation of eLearning in the South African public sector as they are the ones with an in-depth understanding of the idea behind it and what processes were followed.

The interviews for the study were conducted at the DPSA head office in Gauteng Pretoria, at the NSG head office in Gauteng Pretoria, at GCRA in Johannesburg and telephonically with participants from DPSA head office in Pretoria and telephonically with participants from Provincial Government of the Western Cape. The study focused on one-on-one interviews with one participant from DPSA, a telephone interview with one participant from DPSA, a focus group with three participants from NSG, one-on-one interview with one participant from GCRA and a telephone interview with one participant from Provincial Government of the Western Cape. There was a set of 12 open ended questions that guided the interviews (see Appendix 1).

3.5 Research approach

There are three types of research approaches and they are qualitative, quantitative and mixed methods. Du Plooy-Cilliers *et al.* (2014:14) explains the differences between the three and they are:

- *Qualitative methods:* is used when one wants to explore and have an in-depth understanding of people's behaviour, attitudes or the relationship between people's actions. It is interpretive data. It is done through in-depth interviews, observation and textual analysis.
- *Quantitative methods:* represent statistical and numerical data. It is used to predict future outcomes and for a large population sample. Experimental designs and surveys are used in quantitative methods.
- *Mixed methods*: the use of both quantitative and qualitative methods in research.

This research study was conducted using qualitative techniques to collect primary data as the study required an in-depth understanding of the conceptualisation of e-Learning. According to Du Plooy-Cilliers *et al.* (2014:173) qualitative research is about getting a world view where one gets an in-depth understanding of a certain subject from people's experience and these can be subjective as well. Henning, Van Rensburg and Smit (2004) state that qualitative research is a research form which permits the researcher to have different views of the topic that is being studied and the participants give their views in an open ended way which allows for a better understanding and explanation of the topic.

There are different ways to conduct qualitative research. According to Du Plooy-Cilliers *et al.* (2014:176-178) the three types of qualitative research are ethnography, grounded theory and case study. This study used the case study approach with the aim of understanding what happened in the conceptualisation of eLearning phase. In-depth interviews were conducted where there was a standardised set of open ended questions which the participants were asked. This allowed for clarity and a more detailed explanation from the respondents in order to understand the meaning of the participants answers. This method had the advantage of permitting the information to be analysed more easily and allowed for the comparison of notes on the views and opinions of the participants. The other method to collect data that was used was

reviewing of documents which were obtained from DPSA and GCRA. These documents were very important as they assisted in strengthening the information gathered through interviews and covered questions that were not answered during the interview process.

3.6 Research design

According to Welman, Kauger and Mitchell (2005:52) a research design is a strategy to find the people who are going to participate in the study, in other words a plan to find participants whom the researcher will gather information from. This process is done through sampling.

3.6.1 Sampling

Bless, Higson-Smith and Kagee (2006:98-99) state that sampling has a number of advantages for researchers and these are:

- Time factor, when a researcher gathers data using a sample they can save time.
- Cost factor, the costs of research are relative to the number of hours spent on collecting data so if there is no sampling then the costs will be high as the population size is usually large. Sampling assists in narrowing down the population size.
- Practical, it makes collection of data to be simpler especially when there is a large number of population size.

According to Welman *et al.* (2005:56) and Bless *et al.* (2006:100) there are two types of sampling and they are probability and non-probability sampling. Probability sample is when the study is open to the probability that any member or component of the population will be included. These are simple random samples. Non-probability sample is incidental and accidental samples, purposive and snowball samples, convenience and self-selection samples.

This study made use of non-probability sampling. Purposive sampling was applied. Du Plooy-Cilliers *et al.* (2014:142) state that purposive sampling is when the researcher chooses who to interview (who to include in the sample) based on a set of

characteristics. Snowball sampling was applied where the researcher identified the relevant participants from DPSA who gave referrals of participants who were also involved in the conceptualisation of the eLearning in the South African public sector.

3.6.2 Data collection

Data was collected from interviews with several participants from DPSA, the NSG, GCRA and Provincial government of the Western Cape who were involved in the conceptualisation of e-Learning in the South African public sector, in order to get a broader understanding of the topic. Semi-structured interviews based on 12 open-ended questions were conducted on a one-on-one basis, telephonically and with one focus group.

Pre-testing was conducted where the questionnaire was tested on participants in order to see if the questions were clear and understandable and to assess if the desired outcomes of the questionnaire were achieved. The necessary changes were made to the questionnaire.

3.6.3 Data analysis

According to Du Plooy-Cilliers *et al.* (2014:229) qualitative analysis and understanding occurs when the data is converted into findings or the results. They further state that analysing data is analysing text as the qualitative data collected in whatever way through interviews, observation or notes is textual.

Du Plooy-Cilliers *et al.* (2014:235) state that there are eight steps to follow when conducting qualitative content analysis, as outlined in Figure 3.1.

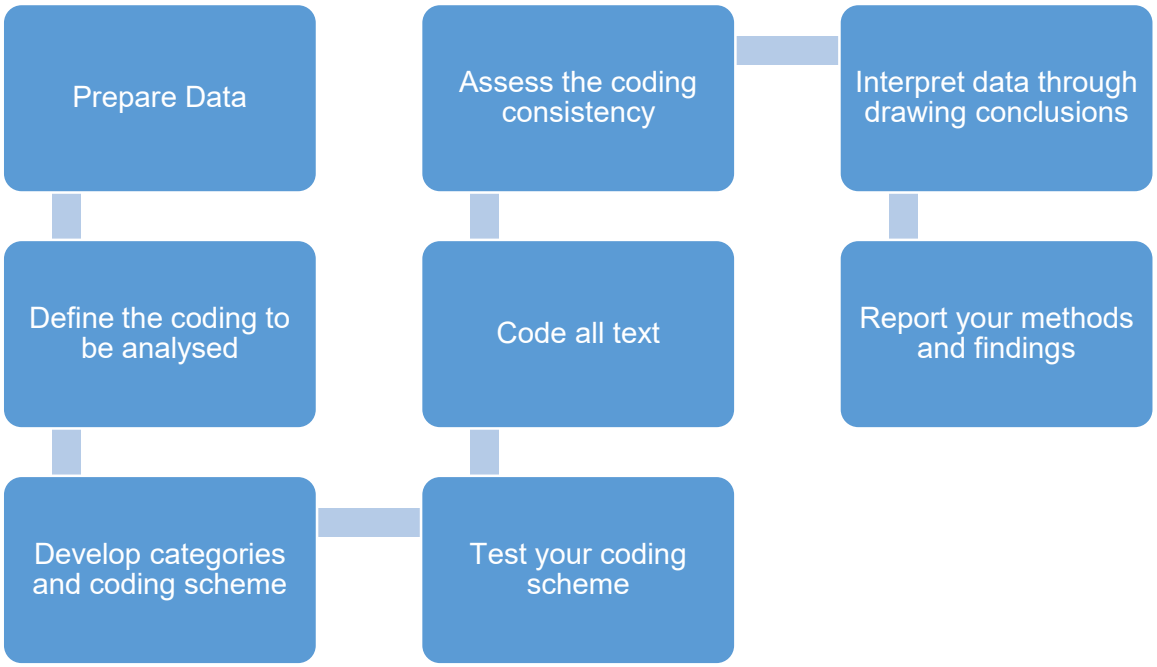

Figure 3.1: Steps for conducting quantitative
Source: Adopted from Du Plooy-Cilliers et al., (2014:235)

1. *Prepare the data*. This is when the researcher arranges the raw data that was collected through interviews and recordings and writes it down as a text and when it is a recording the researcher must transcribe the information on the recorder.
2. *Define the coding unit to be analysed.* The decision of how the coding is going to be done is made here where the researcher can choose whether to use phrases, sentences, individual words or paragraphs as the coding units. This helps to organise data by breaking it down to parts.
3. *Develop categories and coding scheme or conceptual framework.* Once the researcher has coded the data at this step the related codes must be grouped together so there can be categories of codes. These categories must be named to make it easier for identification purposes. It is also important to take into account that the categories must be able to accommodate all the data meaning that the categories must be exhaustive. Categories must be mutually exclusive

meaning they must not overlap and it should be clear where each theme code must be grouped and no unit must be in more than one category. The themes must be specific and it should be clear why they exist.

4. *Test the coding scheme.* The clarity and consistency of the categories should be tested on a sample and the level of consistency should be high.
5. *Code all text.* The scrutiny of data takes place here where the researcher takes note of all the relevant sections which will assist in answering the research questions. There are different ways of coding and they are:
    - Line by line coding, the researcher reads through the text line by line with the aim of making notes of the relevant words and phrases to the research.
    - Open or substantive coding, reading through the whole text so that the researcher can get an overall understanding of what the text is saying while grouping the concepts that are related.
    - Axial coding, the connections between categories is made and there is a comparison of categories of concepts. The researcher identifies the relationship within the categories and based on the analysis of the relationships this may lead to merging or re categorizing.
    - Selective coding, selecting the codes that are most relevant and which will describe the research being conducted.
    - Thematic coding, the identification of themes based on the data collected and the literature review.
6. *Assess the coding consistency.* It is essential that the researcher rechecks the coding to ensure that it was done in a consistent way as coding consistency is very important for the findings.
7. *Interpret data through drawing conclusions.* All the categories and the themes that the researcher has identified are now interpreted. An explanation of how the researcher's interpretation is linked to the broader context is needed meaning that attention must be paid to the cultural, political and social environments.
8. *Report the methods used and the findings.* It is important for the researcher to be honest about the methods that they used in the coding, analysis and

interpretation of the data they collected so that the reliability of the data can be assessed.

When conducting data analysis, the researcher will follow the data analysis steps that are prescribed by Henning, Van Rensburg and Smit (2004:104) for qualitative research analysis using the coding method and the steps outlined in Figure 3.2.

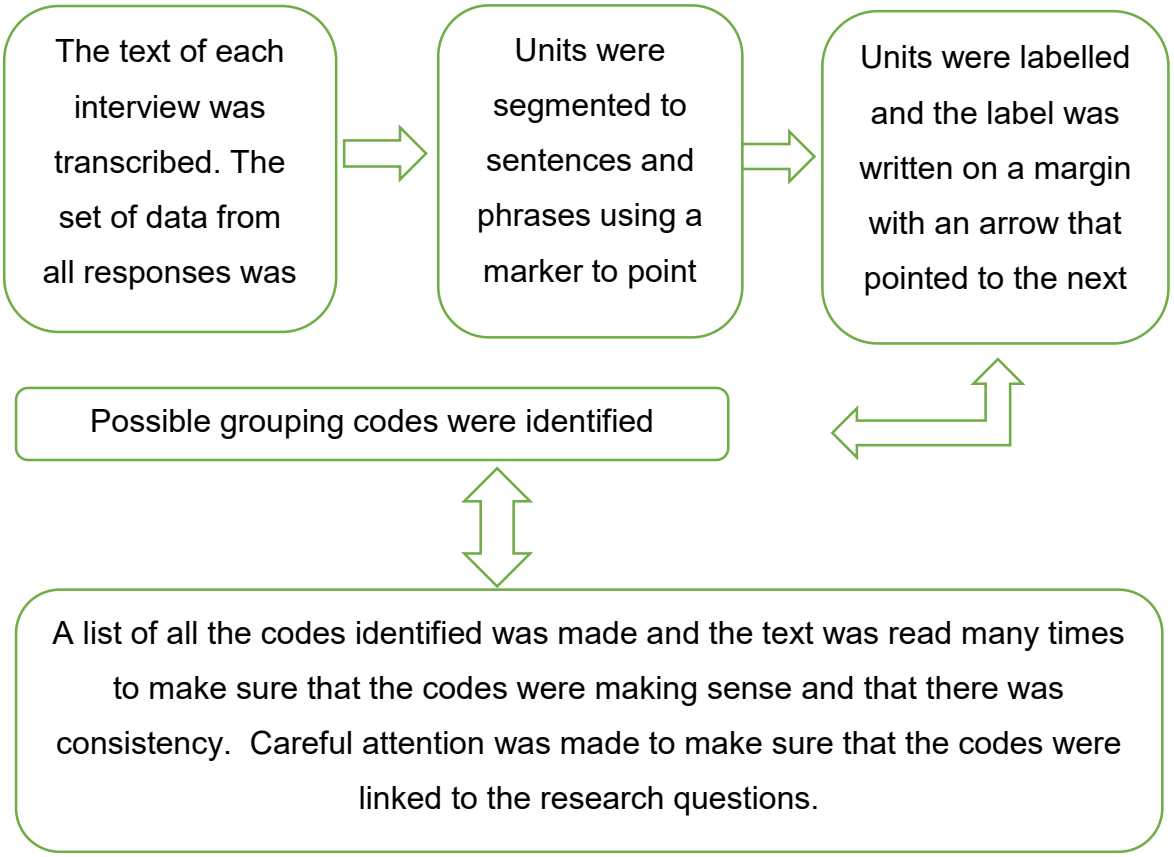

Figure 3.2: Qualitative analysis research
Source: Adopted from Henning, van Rensburg and Smit, (2004:104)

After the researcher collected all the data from the participants the researcher arranged the data into text and transcribed the text of each interview. The researcher made sense of what each participant was saying. The next step was segmenting the units and labelling the units and the researcher then looked for possible grouping of codes from the labelled units. The researcher made a list of all the codes and reread the text to check if the codes made sense and for consistency and to make sure that the codes were related to the research questions. The researcher then interpreted the data and presented the findings.

3.7 Conclusion

This chapter focused on explaining how the study was conducted in order to answer the research questions. It explains that qualitative research was conducted where the participants who were involved in the conceptualisation of eLearning were interviewed on a one-on-one basis and one focus group consisting of three participants. All the participants were asked the same questions and different points of view were gathered. The chapter further explains how data was analysed using coding where responses which were similar were grouped and the codes were linked to the research questions.

CHAPTER 4 : PRESENTATION OF RESULTS AND DATA ANALYSIS

4.1 Introduction

This chapter begins with describing the sample of the study. Data collected from the participants in relation to each research objective is then presented. This data presentation shows the similarities and differences of participants. Data is then analysed using codes where responses which were the same were grouped. Findings of this study are analysed in relation to insights from the literature review.

4.2 Sample

The sample covered all the government departments that have been involved in the conceptualisation of eLearning in the South African public sector. This included the DPSA, GCRA, Provincial Government of the Western Cape and the NSG. The following participants were interviewed:

- Participant 1: DPSA Government Official (Policy Specialist).
- Participant 2: DPSA Government Official.
- Participant 3: GCRA Government Official.
- Participant 4: Provincial Government of the Western Cape Official.
- Participant 5: Focus group from the NSG three government officials who were participant A, B and C.

All participants were asked the same questions. There were twelve open ended questions.

4.3 Presentation of data

4.3.1 Objective 1

- To investigate why the South African public sector introduced the concept of eLearning as opposed to orthodox learning and were e-learning quality standards for consumer protection conducted?

(i) Interview with DPSA government official (Policy Specialist)

The Human Resource Development Strategic Framework of DPSA has four pillars and one of those pillars is about capacity building. It is therefore important that in order to meet this objective of capacity building there has to be an adaptation of a wide set of options and one of them is eLearning. The public is highly dependent on government for service delivery therefore there is a need to develop public servants in order to be able to meet the needs of the public. There are five objectives that have to be met in capacity building and they are:

- Building capacity of public service through widening the range of training meaning that there should not be only one means of training which is face-to-face training as face-to-face training is not always ideal.
- Integrating or recognizing qualifications that were acquired through eLearning in the public service recruitment because some institutions are offering eLearning qualifications and many people might only acquire eLearning qualifications and it should be possible for them to seek employment at Government institutions.
- To reduce costs of capacity building as face-to-face training is costly as there are many other costs involved e.g. traveling and accommodation costs.
- To support people with disabilities and family responsibilities so that they can have easy access to training without having to be away from home or the office for a long time. For a person who has a disability movement can be challenging and people with additional responsibilities will make excuses that they would like to but if they have to travel far to learn it will be a problem because they are not willing to leave their families alone.
- To provide easy access to information for self-professionalism and to introduce uniformity standards of eLearning in government departments because other government departments have introduced eLearning in their departments but they are all doing their own thing. There is no uniformity which is why DSPA, since they are responsible for government administration, have decided to come up with the concept to nationalise eLearning and to draw up one eLearning policy framework document that all government departments must adopt. There are 156 government departments and +- 3million government

employees. There is a need to build capacity so one possible solution is to build capacity using one eLearning policy framework for standardisation.

In terms of the quality standards, accreditation was done. The DSPA outlined the minimum standards relating to the accreditation of the program, course content, learning design, meaningful user interaction with a system, functionality of the system, usability, technical quality, assessment of eLearning, certification, responsible use of eLearning, learner management system and information security. Some people may want to promote eLearning with the aim of harvesting information for the wrong reasons which may be harmfully to the country hence the need for information security.

To ensure that eLearning in the public sector is of high quality standards, benchmarking was conducted with South Korea, Germany and Uganda and they also did their own pilots at a government program called compulsory induction program. This program is for new people joining government for the first time. They have to undergo the program for a year so some components of eLearning were tested with them. GCRA also did a leadership training program where they tested eLearning and this led to DPSA coming to the conclusion that it is viable even though there were geographical and infrastructure challenges.

(ii) Interview with DPSA government official (IT Specialist)

Technology makes things easier. Traditional training is time consuming because one has to spend time away from the office. ELearning was therefore introduced in order to save time because with eLearning government employees can work at the time of their convenience be it at home or at work. ELearning is said to improve efficiency and effectiveness and production. Quality assurance was done because there were engagements with Malaysia. There were workshops conducted where facilitators were part of the workshop since they have the expertise in the field. Benchmarking was done to ensure that there was quality assurance and this is where addition of information was gathered from organisations that had embarked on eLearning.

(iii) Interview with GCRA official

The government needs to train too many public servants and face-to-face training can be very costly. Other government departments had already started implementing

eLearning so there was a need for standardising eLearning which is why the DSPA saw the need to come up with a concept for an eLearning policy framework to be a guide for all government departments. In the orthodox learning arrangement travelling was a problem and also costly so there was a need to save costs and eLearning has saved up to 20% of the costs of training at Gauteng City Region Academy (GCRA) since they have implemented eLearning. The other reason why the public service has conceptualised eLearning is to improve service delivery because there will be more skilled and competent government employees. It is easy to monitor the course as everything is online.

The GCRA did not conduct quality standards assessment for consumer protection because they converted face-to-face courses directly to eLearning. The face-to-face courses that they converted to eLearning have gone through the quality standards for consumer protection. SAQA does not want to recognise online courses. GCRA did not conduct international benchmarking but they visited Singapore to see how they conduct their training and to discover how they can get more modern content. Locally the department attended forums and conferences on eLearning.

(iv) Interview with Provincial Government of the Western Cape official

The provincial government of the Western Cape is always exploring different methodologies of training and they decided to have certain courses online. The idea to introduce eLearning was so that time away from the office because of training could be reduced. Moreover eLearning allows for flexibility as government employees can do the training in their own time at the office or at home.

There was no quality assessment for consumer standards conducted because their main aim is to just transfer skills and the courses are not for accreditation. The provincial government of the Western Cape does however have a quality management system in the organisation.

(v) Interview with NSG focus group

ELearning was conceptualised with the aim to

- Widen the reach of training and give more access to people beyond the borders of the traditional classroom.

- Service one person at a time or many and have more flexible access. The point they trying to make is that they don't have to wait for a class of 20 to fill up to facilitate a face-to-face session.

With face-to-face learning there has be a specific number of people in a classroom and for eLearning one person or many people can be serviced at the same time.

With regards to quality assurance most of the eLearning courses offered are accredited with Public Sector Education and Training Authority (PSETA). The NSG courses go through an internal quality assurance process. Thereafter it is submitted for approval to the relevant Quality Assurance Authority. National Treasury is an example of a partner; financial and supply chain management programmes are verified by National Treasury to ensure the correctness, usefulness and relevance of the courses for the public sector context. There are internal quality assurance processes, external verification of content and external quality assurance processes to approve and to accredit the programs. All programs are reviewed every three years. The programs are reviewed internally but if they do not have the subject matter expertise the NSG sources in.

Benchmarking was conducted as the NSG benchmarked with Brazil, Germany and locally they worked with local universities who have already rolled out eLearning. They looked at Management Development Institutes (MDIs) in Brazil and universities in Germany. When the NSG started eLearning there was no local government departments who were doing eLearning so they could not benchmark with any except for universities but now there are government MDIs which are on board so they meet with them on a regular basis and benchmark with them. If NSG develops courses in financial management the courses are benchmarked with national treasury to ensure that the content is factually correct.

4.3.2 Objective 2

- To determine the South African public sector e-learning strategic plan, to identify who was involved in the conceptualisation of eLearning process and what approach was used?

(i) Interview with DPSA government official (Policy Specialist)

The eLearning strategy was approved in December 2007 but the refining of the document during which more research was done was in 2011 and it started taking shape in 2012. The document has not been approved yet. It has been to the management committee of the DPSA, the executive committee of DPSA, knowledge information management committee of government information technology officers council (GTOC), GTOC, Local Government Capacity building and monitoring coordinating structure and will now go to Governance and Administration working session, Governance and Administration forum of directors general and Cabinet Committee of Governance and Administration where they will decide if it will be approved at this level or to take it to the full cabinet. This framework is informed by the DPSA Human Resource Development strategic framework which has an aim of building the capacity of government employees in order for them to be in a position to perform their duties. The process is foreseen to be completed before the end of the 2015/2016 financial year.

DPSA will not be implementing the eLearning strategic plan; their job is to provide the norms and standards. The NSG will be rolling out the implementation of the eLearning strategy as part of their mandate and other government departments will also take it forward. Each government department or government learning institution is to use the eLearning policy framework to draw their own eLearning strategy from the bigger Human Resource Development Strategy.

The process that the eLearning policy framework document at DPSA is following is outlined in Figure 4.1.

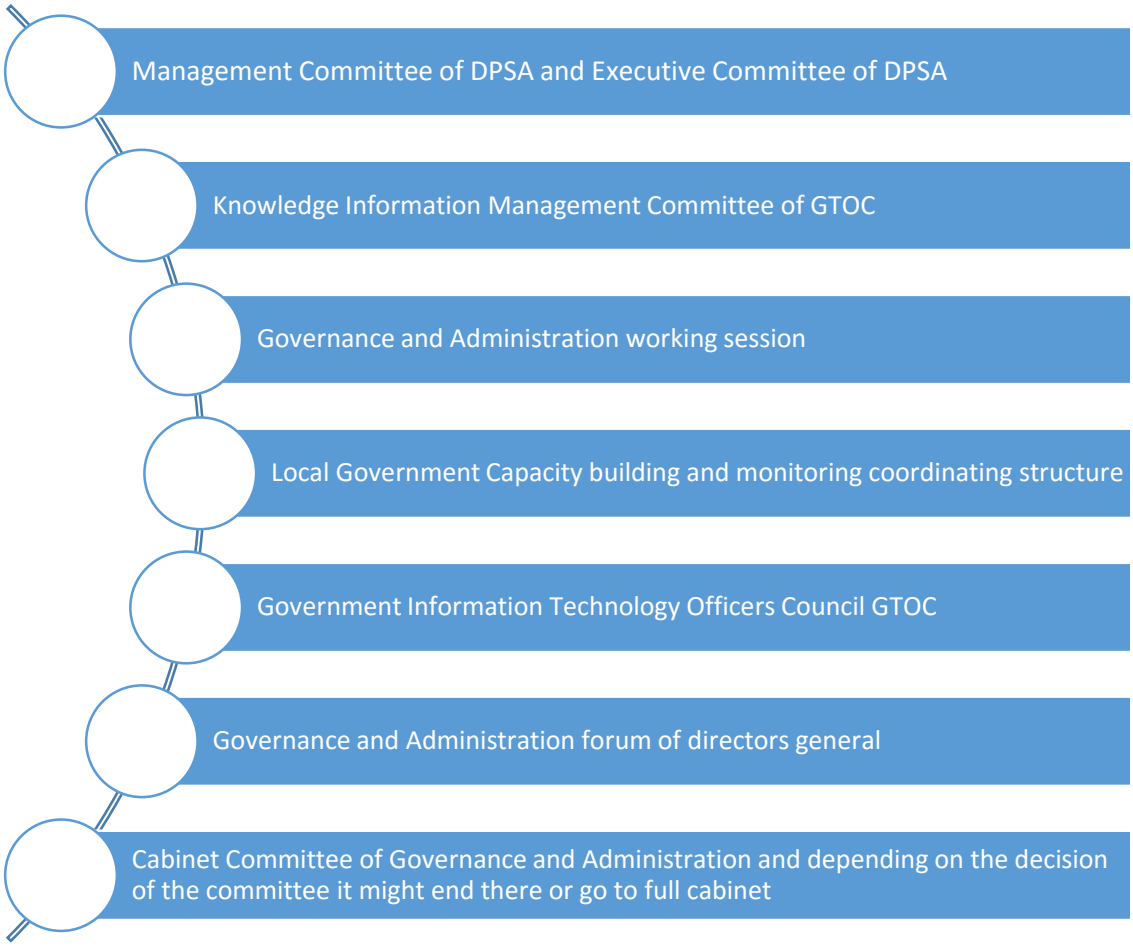

Figure 4.1: Process of eLearning policy framework document at DPSA
Source: Adpoted from DPSA, 2015

The process that DPSA followed in the conceptualisation of eLearning in the public sector is:

- They looked at the need for and appetite for eLearning. This was explored through environmental scanning of who was implementing eLearning.
- A structure was set up and there were a couple of workshops where they invited a number of people who had shown interest in eLearning and this included people from provinces specifically Gauteng as they showed interest in eLearning.
- Assessments were conducted where the NSG played a leading role, convening a number of events for engagement.

- Consulted amongst themselves to discover what the purpose that they want to achieve with this concept is.
- They then started writing up what they wanted the policy to cover and they included different government departments with a variety of relevant expertise.
- This was then followed up with study tours where they went to South Korea, Germany, and Uganda. They attended a conference called Africa eLearning Conference which is an annual event. It is attended by African nationals as well people from all over the world.

The departments that were involved in the conceptualisation of the eLearning phase were the NSG, DPSA, Office of Government Chief Information Officer (OGCIO), State Information Technology Agency (SITA), Gauteng City Region Academy, Department of communications and Department of Corporate and Governance (DCOG). They were all part of the steering committee but it boiled down to only the DPSA and NSG doing the drafting of the eLearning policy document. The other departments in the steering committee were there to assist with the approach and their experiences and they informed what was to be included in the document. From SITA point of view there was a need to understand the general IT architecture and whether eLearning will fit in the overall ICT framework of government and government including what policies are in place. The Department of Communication was there to indicate what the universal coverage or access is like.

(ii) Interview with DPSA government official (IT Specialist)

The IT side of DPSA has a strategy for eLearning but there is a need for a comprehensive national strategic plan for eLearning. The process followed in the conceptualisation phase was a meeting of the Government Information Technology Office (GITO) council which included the Province, Municipalities, Development Bank of Southern Africa (DBSA) and national government where the idea was discussed and it was decided that the idea of eLearning should be taken forward and implemented.

(iii) Interview with GCRA official

GCRA has an eLearning strategic plan .The eLearning strategic plan does not talk to the overall government human resource development strategic plan because of the silo mentality in the public sector.

The process that was followed in the conceptualisation of eLearning process was that government set out to learn about eLearning by going to the institutions that were implementing eLearning to learn more about it and to see how it works. This was a process of conducting environmental scanning. When some government officials bought into the idea the next step was to sell it to management and when management bought into the idea planning was done, implemented and documented.

In drafting the national eLearning policy framework; DPSA, NSG and GCRA worked together as the main focus was standardizing eLearning in the public sector as standardisation helps with economies of scale. Each department participated with their own experiences and expertise but the whole policy document drafting was a collaborative effort from the departments above.

(iv) Interview with Provincial Government of the Western Cape official

The Provincial Government of the Western Cape does not have an eLearning strategic plan but they have seen a need for it and they are planning to start working on drawing up an eLearning strategic plan.

The process that was followed is they consulted and made an appointment with the NSG. They sat and planned around a current face-to-face program that they wanted to turn into an eLearning program. The NSG assisted greatly in breaking down the material into digestible chunks. When the eLearning course was designed it was piloted to a small group of people and this yielded positive results. Facilitators were also involved to a certain extent because they were consulted and were involved in the piloting.

The provincial government of the Western Cape has no knowledge of the process that followed by DSPA to conceptualise eLearning and the drafting of the eLearning guidelines. DSPA works in silos without consulting people who are implementing the eLearning e.g. the Provincial Government of the Western Cape.

(v) Interview with NSG focus group

The NSG has an eLearning strategic plan which guides the implementation of eLearning by the NSG. The aim of the plan is to guide eLearning and to achieve the objectives. The eLearning plan is aligned with the overall NSG strategic plan. The idea that eLearning must be integrated started around about 2008; however the current NSG eLearning team was appointed to drive the integration in 2009/2010.

The conceptualisation of eLearning was a collaborative effort. The DPSA is responsible for the policies and the NSG for implementation. The NSG was appointed because they have a mandate to widen access to learning. The NSG has to act on that mandate. The process involved an environmental scan to understand the context of implementation and from the environmental scanning results they came up with an implementation strategy. The environmental scan included government employees from national, provincial and local government. The information gathered from the scan helped to draft an eLearning strategy. For example not all government officials have access to the internet at work. Therefore, eLearning courses are not accessible to all. For this reason there are currently no courses that are only available in eLearning format. All learning courses are also available face-to-face format to accommodate the training needs of those who don't have access to computers and internet. There are face-to-face courses and eLearning courses because the NSG do not want to create a digital divide. The eLearning strategy is informed by local and international benchmarking.

The stakeholders that were involved in the eLearning conceptualisation phase and their roles are as follows:

- SITA since they are responsible for government technology they were brought on board for technological support.
- DPSA for policy and guideline support.
- CPSI for any technological innovation.
- Provincial academies to extend the reach because they are situated in the provinces and they know what the needs of the provinces are.
- Government departments for environmental scanning in order to understand the need.
- Local government to understand their needs and how they can be addressed.

4.3.3 Objective 3

- To investigate the challenges facing the South African public sector prior to the e-learning concept and was there any coordination with the private sector?

(i) Interview with DPSA government official (Policy Specialist)

The challenges facing government when it comes to training were that other government departments introduced eLearning in an uniformed way as every department was/is doing their own thing. Training has become too expensive and most of the training budget goes to travelling, accommodation, subsistence allowance, catering and there is a point where the quality of training and development in the public sector is measured by the quality of the lunch the venue the accommodation etc. and not the actual training. Another challenge is the inability to provide accommodation for disabled people.

There are specific challenges which are anticipated with eLearning as well, and these include language computer literacy, infrastructure and access which is why the eLearning policy framework tried to address some of the foreseen challenges. There are support arrangements which are included in the eLearning policy framework.

There was no coordination with the private sector, the government just took learning from them. In Germany the South African government representatives went to a private institution and the reason for the visit was to learn and to benchmark. The DPSA only worked with government departments and NSG. The whole plan is for government to have their own eLearning because part of it is to provide mechanisms to protect the public sector from potential abuse. The plan is to have a government owned learning management solution which will provide a virtual campus any institution outside government can come and plug in for the duration of that program and when they leave government will retain the record.

(ii) Interview with DPSA government official (IT Specialist)

The challenges facing the public sector are that efficiency and effectiveness are not reached. Productivity is low and there are a lot of riots from the public as they are unhappy with service delivery. Time constraints also pose a challenge because officials have to be away from work when they have to go for training and this has a

negative impact on productivity. Budget becomes a challenge and an issue because face-to-face learning is costly.

During the conceptualisation phase there was no coordination with the private sector. Government only coordinated with government departments. However, there was consultation with some elements of the private sectors who have done eLearning in order to see how they did it but there are no private public partnerships (PPP's).

(iii) Interview with GCRA official

The challenges that are facing the public sector prior to learning are:

- There are too many public servants that must be trained.
- The cost of training is too high and these costs include but are not limited to venues, catering and transportation.
- There is a challenge with the attendance of people.
- Training is too time consuming.

The GCRA did coordinate with the private sector in the form of Harambee. Harambee is a work readiness agency. This coordination is on an informal basis but the department is in the process of signing a Memorandum of Understanding (MOU) with Harambee. The reason for coordination with this private sector agency is because Harambee own a competency assessment battery so it is cheaper to use them than to own one themselves. In terms of information security in this regard the MOU is going to protect them against information theft or misuse.

(iv) Interview with Provincial Government of the Western Cape official

The challenges that are facing the government departments when it comes to learning are that the time spent in the classroom with orthodox training was too much and senior level management could not attend due to commitments.

Coordination and consultation with the private sector was conducted. They are renting a server space with SeiveHosting. There is a concern however with the security risks but they are working on internalizing the server space. The other private company that they consulted and worked with before was Aosis, a Moodle partner based in Cape

Town. They worked with them as they were assisting with the upgrading of the system but the department has built the capacity internally.

(v) Interview with NSG focus group

The challenges that are facing the government departments' and continuous professional development in general are:

- The number of public servants to be trained.
- Diversity of people in terms of people having to be trained from different occupational levels.
- Training full time workers, providing education and learning in the workplace.
- To get the right people in the training.
- To get the people to transfer their learning in the workplace.
- Learners are across the entire country.

Some of these challenges were the drivers for eLearning, e.g. to roll out training to scale. Due to these challenges the strategy was drawn up in a way that it is aligned it to address these challenges.

There was coordination with the private sector in terms of consultation. For example when the NSG had their first eLearning indaba ETD specialists from Absa were invited to see how they do compulsory training by means of eLearning. The NSG only consulted and they do not currently have private public partnerships. ELearning courses are public sector focused. The NSG received funding to enhance and support eLearning in the public sector. Donors include GIZ and the European Union.

4.3.4 Objective 4

- To understand what is the South African government hoping to achieve by introducing eLearning for the public sector and what are the key indicators for measuring the success of this introduction?

(i) Interview with DPSA government official (Policy Specialist)

The key indicators of measuring eLearning success will be:

- Going back to the objectives and check that they have been met.
- DPSA wants to mainstream eLearning as an acceptable way of learning.

- An increase in the number of departments and employees who undertake their program through eLearning.
- Increase in the number of departments that recognise qualifications which were obtained through eLearning.
- To have a large number of people with disability obtaining their qualification through eLearning.

(ii) Interview with DPSA government official (IT Specialist)

What the public service wants to achieve through introducing eLearning is to have productive, efficient and effective officials. The public servants must be professional and skilled. There must be equal opportunity for all officials to learn.

The key indicators of successful eLearning will be less riots, more informed government officials, an increase in productivity and the public will be happy.

(ii) Interview with GCRA official

The public sector is hoping to uplift the citizens of the country through eLearning and to eradicate poverty. There are no key indicators of measuring eLearning success which is why most eLearning training is in the form of projects which will make it easier to set short term indicators of success.

(iv) Interview with Provincial Government of the Western Cape official

ELearning will be another training methodology to transfer knowledge and skills. The department is hoping to expand eLearning and to make more modules available to everyone. In other words the public sector wants to accommodate every government official when it comes to learning.

The key indicators of the success of eLearning will be the application of knowledge and skills in the workplace.

(v) Interview with NSG focus group

The public service wants to make learning in government more flexible and accessible and to deliver learning in the workplace. Governments also want to connect people irrespective of time and space.

Success indicators will be the number of people trained, people's reaction to the training, if they actually learnt something and if they make a difference in the workplace. Transferring the learning in the workplace to make a difference with the ultimate aim to improve service delivery.

4.4 Data analysis

4.4.1 Why eLearning as opposed to orthodox learning

Participants were asked to elaborate on why eLearning was introduced. The themes that emerged were capacity building, cost effectiveness, and easy access of information.

Participant 3 stated: "The government needs to train too many public servants and face-to-face training can be very costly. In the orthodox learning travelling was a problem and also costly so there was a need to save costs and eLearning has saved up to 20% of the costs of training at Gauteng City Region Academy (GCRA) since they have implemented eLearning".

Participant 1 stated: "eLearning was introduced for easy access to information, for self-professionalism and to introduce uniformity standards of eLearning in government departments. There are 156 government departments and +- 3million government employees. There is a need for building capacity so the possible solution was to build capacity using one eLearning policy framework for standardisation".

Participant C from the NSG focus group discussion reported that "eLearning was conceptualised with the aim to widen the reach and give more access to people beyond the borders of the traditional classroom".

Literature has revealed many reasons why eLearning is preferred over orthodox learning. According to Sitnikov *et al.* (2010:43); Balasubramanian *et al.* (2014:5654

and Ellis and Kuznia (2014:1-2) with eLearning information can be shared across borders and people do not have to be at the same place or area to learn. Everything can be done online without hiring instructors to teach the learning modules. There is no need for employees to be physically present at a set venue taking them away from work during office hours and they can learn at home. Further, eLearning can save costs because in most cases when employees attend courses they have to be accommodated, transported and provided with meals. According to Arthur-Mensah and Shuck (2014:42) eLearning is used to meet the high demands of consumers.

4.4.2 Quality standards of eLearning and benchmarking

When the participants were asked to elaborate on consumer protection there were mixed responses provided by the participants.

Participant 3 reported: “The GCRA did not conduct quality standards for consumer protection because they converted face-to-face courses directly to eLearning. The face-to-face courses that they converted to eLearning have gone through the quality standards for consumer protection”. According to the participant SAQA does not want to recognise online courses. Similar responses were provided by Participant 4.

On the other hand, Participant C from the focus group said: “most of the eLearning courses offered are accredited with PSETA. The NSG courses go through an internal quality assurance process. Thereafter it is submitted for approval to the relevant Quality Assurance Authority. National Treasury is an example of a partner; financial and supply chain management programmes are verified by National Treasury to ensure the correctness, usefulness and relevance of the courses for the public sector context. The programs are reviewed internally but if they do not have the subject matter expertise the NSG sources in”.

The literature reviewed supports the data gathered from the participants. The quality of education should indicate the relationship between learning, the goals learning outcomes, the standards and demands together with the requirements outlined by the organisations (Grifoll *et al.,* 2010:8). Moreover they say quality assessment must include assessing the quality of academic staff, teaching equipment, the program, institution and research. According to Ellis and Kuznia (2014:5) accurate evaluation

tools must be utilised to analyse the quality of eLearning. Neacsu *et al.* (2014:527-258) have identified a number of models which can be used for quality standards evaluation and they are:

- *CFDQ:* checks for accessibility, ease of interpretation, relevance for the end user and accuracy.
- *EQL:* used to assess the quality in eLearning.
- *IDEA:* used to improve the quality of education.

Neacsu *et al.* (2014:427) stated that in Europe there are organisations that are responsible for developing quality standards in eLearning e.g. EFQUEL which is responsible for offering the quality certificates for eLearning as their main aim is to make sure that the courses offered inline are of high quality standards.

Another way to ensure quality according to literature is through benchmarking. Alexander and Golja (2007:18) highlight the importance of benchmarking as it involves comparing and will lead to measuring eLearning. According to Grifoll *et al.*, (2010:32) benchmarking is an approach to quality assurance and development.

With regards to benchmarking of the program, Participant 1 reported that "benchmarking was conducted with South Korea, Germany and Uganda and they also did their own pilots at a government program called compulsory induction program. This program is for new people joining government for the first time. They have to undergo the program for a year so some components of eLearning were tested with them".

On the other hand, Participant 3 said the following: "GCRA did not conduct international benchmarking but they visited Singapore to see how they conduct their training and to discover how they can get more modern content. Locally the department attended forums and conferences on eLearning".

From the focus group discussion it could be concluded that benchmarking was conducted. Participant B reported: "Benchmarking was done as the NSG benchmarked with Brazil, Germany and locally they worked with universities who have already rolled out eLearning".

4.4.3 Measuring the success of eLearning

With regards to achievement from eLearning, all the participants reported positively. They mentioned that more people including disabled people were being trained and educated.

Participant 1 stated: “The key indicators of measuring eLearning success will be: an increase in the number of departments and employees who undertake their program through eLearning; an increase in the number of departments that recognise qualifications which were obtained through eLearning, and; to have a large number of people with disability obtaining their qualification through eLearning”.

When asked about success indicators, Participant 3 reported: “To make learning in government more flexible and accessible and to deliver learning in the workplace, and to connect people irrespective of time and space”.

Participant C from the focus group discussion said: “Success indicators will be the number of people trained, people’s reaction to the training, if they actually learnt something and if they make a difference in the workplace. Transferring the learning in the workplace to make a difference and the ultimate aim is to improve service delivery”.

Participant 4 had a different view and said: “eLearning will be another training methodology to transfer knowledge and skills. The department is hoping to expand eLearning and to make more modules available to everyone. In other words it is to accommodate everyone. The key indicators will be the application of knowledge and skills in the workplace”.

This is in line with what different scholars have identified as the key indicators of success. According to Ellis and Kuznia (2014:3) for eLearning to be successful the eLearning process must benefit all the stakeholders. Balasubramanian *et al.* (2014:5653) on the other hand indicate that for eLearning to be viewed as successful the learning must be completed in the time that was allocated and the knowledge that was to be gained from training must be gained.

4.4.4 Private public partnerships in eLearning

Coordination with the private sector is an important issue. With regards to eLearning, there were positive and negative responses received from the participants when asked if coordination took place with the private sector or not.

Participant 1 in his interview reported: “There was no coordination with the private sector they just took learning’s from them. In Germany they went to a private institution and the reason for the visit was to learn and to benchmark. The whole plan is for government to have their own eLearning because part of it is to provide mechanisms to protect the public sector from potential abuse”.

Participant B from the focus group stated: “There was coordination with the private sector in terms of consultation. For example when the NSG had their first eLearning indaba ETD specialists from Absa were invited to see how they do compulsory training by means of eLearning. The NSG only consulted and they do not currently have private public partnerships. The NSG received funding to enhance and support eLearning in the public sector”.

Literature supported the importance of PPP’s. Tarus *et al.* (2015:134) highlighted that PPP’s are important because the private sector and the public sector can work together to address educational and developmental issues. Although PPP’s are important, the challenge of PPP’s in the public sector is the issue of information security.

4.4.5 Strategic planning for eLearning

There were mixed responses with regards to strategic planning for eLearning. For example, Participant 3 stated: “GCRA has an eLearning strategic plan. The eLearning strategic plan does not talk to the overall government human resource development strategic plan because of the silos mentality in the public sector”.

Contrary to that, Participant C from the focus group mentioned that “The NSG has an eLearning strategic plan which guides the implementation of eLearning by the NSG. The aim of the plan is to guide eLearning and to achieve the objectives. The eLearning plan is aligned with the overall NSG strategic plan”.

Participant 1 reported: “The NSG will be rolling out the implementation of the eLearning strategy as part of their mandate and other government departments will also take it forward. Each government department or government learning institution is to use the eLearning policy framework to draw up their own eLearning strategy from the bigger Human Resource Development Strategy”.

The literature highlighted the importance of a strategic plan. Kok (2013:20) notes the criticality of having an integrated learning strategy for eLearning to ensure that eLearning is effective. According to Ellis and Kuznia (2014:3 it is vital to align the eLearning strategy to the overall strategy of the company because everything that is done in organisations should be informed by the organisations strategy. Singh (2014:560) indicates that it is important for organisations to include all stakeholders in the development of eLearning strategy so that there will be minimum resistance in the implementation of eLearning phase. Singh (2014:558) also warns against the use of a top-down planning approach as it eliminates the people who will implement the strategy.

4.4.6 Conceptualisation process of eLearning

With regards to the process followed to conceptualise the phase, there were different views manifested. For example, Participant 4 mentioned: “The provincial government of the Western Cape has no knowledge about the process that was done by DSPA to conceptualise eLearning and the drafting of the eLearning guidelines”. The respondent added: “DSPA does their own thing without consulting people who are doing the eLearning e.g. the provincial government of the Western Cape”.

Participant 1 stated: “The departments that were involved in the conceptualisation of eLearning phase are the NSG, DPSA, Office of Government Chief Information Officer (OGCIO), State Information Technology Agency (SITA), Gauteng City Region Academy, Department of communications and Department of Corporate and Governance. The other departments in the steering committee were there to assist with the approach and their experiences and they informed what was to be part of the document”.

Similar to Participant 1, Participant 3 said: “the process that was followed in the conceptualisation of the eLearning process was that government exposed themselves to eLearning by going to the institutions that were implementing eLearning to learn more about it and to see how it works. This was a process of conducting environmental scanning. When they bought into the idea the next step was to sell it to management and when management bought the idea planning in this regard was done and documented”.

The review on literature up to some extent has similar processes that should be followed. Stoltenkam (2012:149-151) introduces an integrated eLearning process which says that the process to be followed in eLearning is: obtain the theoretical background of eLearning; create awareness of eLearning and develop an integrated eLearning model.

4.5 Conclusion

Chapter 4 presented the data collected from all participants including the focus group based on each objective. The data was then analysed to answer each research question. Coding of data was done where the responses that were similar from the participants were grouped together in order to answer the research questions. Differing responses were also grouped and presented to answer the research questions.

CHAPTER 5 : CONCLUSION

5.1 Introduction

The main aim of this study was to understand the reasoning behind the conceptualisation of eLearning in the South African public sector. This was achieved by engaging in a literature review and data collection through interviews with government officials who were involved in the conceptualisation of eLearning. The study explained a number of concepts with the aim of answering the research questions. This chapter concludes the study by highlighting how the research questions were answered. The chapter also looks at how the public sector can use a systems thinking approach to eLearning. The implications of the research are emphasised and recommendations arising from the study are presented.

5.2 Research objectives addressed in this study

This study investigated the research problem which was outlined in Chapter 1. In order to investigate the research problem, research objectives were set and from the research objectives the following research questions were identified:

- To investigate why the South African public sector introduced the concept of eLearning as opposed to orthodox learning and whether eLearning quality standards for consumer protection were conducted?
- To identify key features of the South African public sector eLearning strategic plan, who was involved in the conceptualisation of eLearning process and what approach was used?
- To investigate the challenges facing the South African public sector prior to introduction of the eLearning concept and whether there was any coordination with the private sector?
- To investigate what the South African government is hoping to achieve by introducing eLearning for the public sector and what are the key indicators for measuring the success of this introduction.

A literature review was conducted in an effort to address the research questions with an aim to understand what scholars have to say about it. However the literature did not cover the research questions in the South African context. This led to a more in-depth study where qualitative research was conducted through collection of data which resulted in the findings presented in Chapter 4. The findings from both literature and qualitative data collection are discussed below.

The public service decided to introduce eLearning in the South African public sector because there is a need to build capacity. The public sector has too many government officials who must be trained and the training cost for orthodox learning is too expensive. ELearning provides convenience as one can study anywhere at any time and it accommodates all types of people from management to people with disabilities. Many scholars concur with the views of Sitnikov (2010:43); Balasubramanian *et al.* (2014:5654) and Ellis *et al.* (2014:1-2) that eLearning does not require the students to be physically present, saves costs and keeps staff members skills up to date increasing the performance of employees.

According to Barker (2007:109) quality standards are important because they provide assurance of good quality. Quality standards of eLearning are conducted in the South African public sector as most of the public sector courses are accredited by PSETA. Information gathered also reveals that there has been an extensive international benchmarking process involving South Korea, Germany, Uganda, Brazil, local and international universities. Benchmarking assists in comparing standards so as to encourage improvement.

A strategic plan provides guidelines that can be used for implementation. The study revealed that the South African public sector does not yet have a national eLearning strategic plan. The DPSA has drawn up a policy and guidelines on eLearning in the public sector, but this document has not yet been approved. This document however is not an eLearning strategic plan as DPSA has advised that each government department should draw up their own strategic plan drawing from the policy and guidelines on eLearning in the public sector document.

Literature indicates that the process of conceptualisation should include partners/shareholders right from the beginning of conceptualisation to make sure that

everyone understands what needs to be achieved. Singh (2014:558) warns against using a top-down approach in developing learning strategies as this may lead to resistance from the people who will be the ones implementing the program. It is clear from the data collected in this study that the conceptualisation process followed a top-down approach as there was no mention of engagements with the government officials who will be learning through eLearning. Other public services do not have an idea that the DPSA has drawn up policy and guidelines on eLearning in the public sector and an official indicated that the DPSA does things in silos. The DPSA did not involve all the government departments that have been involved in eLearning in their planning session to draw up the abovementioned document.

There are many challenges faced by the South African public sector when it comes to learning. The training that they offer becomes more about money that the officials can get (subsistence allowance) from going to the training when they have to train away from home rather than the content. There are too many riots due to the public not being happy with service delivery and according to data collected this could be because of unskilled government officials. The public sector is hoping to minimise these challenges with introducing eLearning.

The South African public sector did not coordinate with the private sector in conceptualising eLearning but did consult that sector. The government departments that are currently coordinating with the private sector are planning to source all the expertise and services internally. Kebaetse *et al.* (2014:46-47), Gherman and Predonu (2013:405) and Debande (2004:201-202) emphasised the importance of private public partnerships in order to meet public needs. Although the abovementioned scholars support private public partnerships with the public sector there is a concern regarding information security in such partnerships.

There are many benefits that the South African public sector can achieve from introducing eLearning, namely, having productive, efficient and effective government officials. This will lead to an improvement in service delivery as more officials will be equipped with the necessary skills to perform their duties.

ELearning success can be measured by the value it has for all its stakeholders (Ellis *et al.*, 2014:3). From the interviews conducted with government officials in this study it

is not clear whether they have a way of measuring the success of eLearning. This could be because some of them do not have a strategic plan which outlines the objectives to be achieved.

5.3 Systems thinking in eLearning

The challenges facing the public sector are complex problems. Certain scholars have come up with a way to deal with complexity which is known as systems thinking. According to Neumann (2013:82) complexity is when there is a large number of interactions where there are feedback loops and the variables depend on each other. It is therefore important to look at the public sector in a systems thinking way meaning that it should be looked at in a holistic view moving away from the traditional reductionist way of studying problems. The systems approach is going to challenge the way in which the South African public sector has conceptualised eLearning up until now, which is to predict expectations, guarantees and the final answer, which is to assume that patterns repeat themselves (a linear process).

According to Riley *et al.* (2015:50) complex problems do not contain patterns that repeat themselves so one cannot guarantee the results. Because of this, using a formula based approach is not ideal because situations are never exactly the same. The systems thinking approach assists in moving away from a silo mentality. The public sector exists in an ever changing complex environment and therefore there needs to be a paradigm shift. Jackson (2003:67) states that management must ensure that the behaviour of the system is in line with the organisation's goal. With dynamic complex systems the key driver of performance and behaviour over time is feedback loops (Kunc, 2012:30). According to Caldwell (2012:152) there are both positive and negative feedback loops where the positive feedback loops support change and negative feedback loops are against change. In eLearning feedback loops are important as they inform decision making which can be used by policy and practice organisations and in understanding the relationship and interests of the stakeholders.

Hard systems' thinking is another method that can be used in eLearning as it is a way of dealing with real world problems through the use of models. With hard systems the problem is known and sometimes even the solution is also predicted. One of the models that can be utilised for eLearning is the VSM which according to Hildbrand &

Bodhanya (2013:11) is suitable as it supports management when they have to deal with complexity and in this case, eLearning.

As much as management can adopt hard systems in eLearning it would be more advantageous for management to adopt a soft systems methodology as this deals with wicked problems and is more able to accommodate the human aspect. Challenges faced by the public services are wicked because there challenges all the time which lead to disastrous impacts. According to Jackson (2003:181) with SSM there are different models that the public sector can use which draw a rich picture to visualise the problem.

5.4 Implications of this research

This study is going to benefit the South African public sector as eLearning is new in the South African government. There have been very limited studies on eLearning in the public sector so the study will give an insight into eLearning and will assist the South African government to identify gaps in the conceptualisation of eLearning. The literature review identified several sources that can be helpful to the development of eLearning in the South African public sector including how to measure progress and identify any causes of failure or challenges in the implementation phase.

5.5 Recommendations

Based on the literature review, the information gathered from the participants and analysis of the findings the following recommendations are proposed by the researcher:

- The public service needs to revisit the conceptualisation phase to assess what can be accomplished better during the process and consider how to including all public services that have introduced and are implementing eLearning in the overall conceptualisation phase. This will be beneficial as more understanding of eLearning can be gained from all departments who have implemented it because they are the ones with experience of what works and what does not.
- A national strategic eLearning plan should be drafted as this will assist in measuring the success of eLearning in terms of the objectives of eLearning and establish standardisation in the public sector when it comes to training. A

strategic plan is a roadmap and which can also provide guidelines for measuring outcomes. At present all the public services that are implementing eLearning are doing their own thing (working in silos) and have different views on the reasoning behind introducing eLearning.

- The public service should look into a systems thinking approach as a way of diagnosing and dealing with the challenges facing the public sector because the study has proven that these challenges cannot be solved using a linear process as they are wicked complex problems which are beyond just the training of public servants.

5.6 Contribution of study

This study aimed to make a meaningful contribution to eLearning in the public sector. The conceptualisation process presented provides a framework and guideline for the public sector in South Africa. For the South African public sector to deal with skills shortage, more innovative ways need to be established.

This study contributes to eLearning practice in the public sector firstly by highlighting processes that needs to be followed in order to conceptualise eLearning in an effective and efficient way. Furthermore the study provides a framework and guidelines of the conceptualisation process which have proven to be successful as it has led to a more flexible way of learning for the public sector.

Secondly this study gives a more in-depth understanding of eLearning practices in the South African public sector which in turn contributes to the current body of knowledge. The study shows a deeper understanding of theoretical underpinning for eLearning practices.

Lastly the conceptualisation process above shows the need for a paradigm shift. ELearning must be conceptualised using a systems thinking approach which is the holistic approach. We must move away from using the reductionist approach because it fails to cope with the problems of complexity.

5.7 Recommendations for future research

This study recommends that an assessment of the implementation of eLearning in the South African public sector be conducted since some public sectors have implemented eLearning since 2007. This will assist is assessing if the objectives outlined in the conceptualisation phase of eLearning are met or not with the aim of improving and filling in the gaps of the conceptualisation phase so that better quality training can be provided to South African public officials.

5.8 Conclusion

This chapter is one of the most important chapters of the study as it concludes the study. The research questions which were answered in the study and how they were answered are highlighted. The research objectives were achieved by employing research techniques. The researcher introduced a systems thinking way of eLearning. The implications of this research was emphasised, and there were recommendations for future research identified. Moreover the researcher gave an understanding of how this study is going make a meaningful contribution to eLearning.

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APPENDIXES

Appendix 1: Ethical Clearance

UNIVERSITY OF KWAZULU-NATAL
INYUVESI YAKWAZULU-NATALI

23 July 2015

Ms Ayanda Pamella Msomi (204004182)
Graduate School of Busines & Leadership
Westville Campus

Dear Ms Msomi,

Protocol reference number: HSS/0731/015M
Project titie: The conceptualisation of e-learning at the South African public sector

Full Approval – Expedited Application

In response to your application received on 12 June 2015, the Humanities & Social Sciences Research Ethics Committee has considered the abovementioned application and the protocol have been granted **FULL APPROVAL.**

Any alteration/s to the approved research protocol i.e. Questionnaire/Interview Schedule, Informed Consent Form, Title of the Project, Location of the Study, Research Approach and Methods must be reviewed and approved through the amendment/modification prior to its implementation. In case you have further queries, please quote the above reference number.

PLEASE NOTE: Research data should be securely stored in the discipline/department for a period of 5 years.

The ethical clearance certificate is only valid for a period of 3 years from the date of issue. Thereafter Recertification must be applied for on an annual basis.

I take this opportunity of wishing you everything of the best with your study.

Yours faithfully

.....
Dr Shenuka Singh (Chair)

/ms

Cc Supervisor: Dr Elias Munapo
Cc Academic Leader Research: Dr Muhammad Hoque
Cc School Administrator: Ms Zarnia Bullyraj

Humanities & Social Sciences Research Ethics Committee
Dr Shenuka Singh (Chair)
Westville Campus, Govan Mbeki Building
Postal Address: Private Bag X54001, Durban 4000
Telephone: +27 (0) 31 260 3587/8350/4557 **Facsimile:** +27 (0) 31 260 4609 **Email:** ximbap@ukzn.ac.za / snymanm@ukzn.ac.za / mohunp@ukzn.ac.za
Website: www.ukzn.ac.za

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